

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CHANGE NOTICE NO. 1
to
CONTRACT NO. 071B0200128
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
Kenwood USA Corporation 2201 E. Dominguez Street P.O. Box 22745 Longa Beach, CA 22745	Barry Morris	bmorris@kenwoodusa.com
	TELEPHONE	CONTRACTOR #, MAIL CODE
	(800) 752-0986	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR	DTMB	Toney Casey	(517) 333-6618	caseyt1@michigan.gov
BUYER	DTMB	Steve Motz	(517) 241-3215	motzs@michigan.gov

CONTRACT SUMMARY:			
DESCRIPTION: Two Way Radios - Statewide			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
March 1, 2010	January 19, 2013	Five (1) One Year	January 19, 2013
PAYMENT TERMS	F.O.B	SHIPPED	SHIPPED FROM
N/A	N/A	N/A	N/A
ALTERNATE PAYMENT OPTIONS:			AVAILABLE TO MiDEAL PARTICIPANTS
<input type="checkbox"/> P-card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS:			
N/A			

DESCRIPTION OF CHANGE NOTICE:							
EXTEND CONTRACT EXPIRATION DATE	EXERCISE CONTRACT OPTION YEAR(S)	EXTENSION BEYOND CONTRACT OPTION YEARS	LENGTH OF OPTION/EXTENSION	EXPIRATION DATE AFTER CHANGE			
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	One (1) Year	January 19, 2014			
VALUE/COST OF CHANGE NOTICE:		ESTIMATED AGGREGATE CONTRACT VALUE REMAINS:					
\$0.00		\$500,000.00					
This Contract is hereby extended for one (1) year, through use of a contract option. Additionally the pricing and product listing have been update and are attached.							
All other terms, conditions and pricing remain unchanged.							

Attachment A – Pricing Matrix

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, VHF, High-Performance 146-162 MHz	146-162 MHz	TKR-740K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, VHF, 146-174MHz, 25-50W	146-174 MHz	TKR-750K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, VHF, 136-150MHz, 25-50W	136-150 MHz	TKR-750K2
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, VHF, 146-174MHz, 25W	146-174 MHz	TKR-751K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, UHF, High-Performance 450-480MHz	450-480 MHz	TKR-840K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, UHF, 450-480MHz 25-40W	450-480 MHz	TKR-850K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, UHF, 480-512MHz 25-40W	480-512 MHz	TKR-850K2
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, UHF, 400-430MHz 25-40W	400-430 MHz	TKR-850K3
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, UHF, 450-480MHz 1-25W	450-480 MHz	TKR-851K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, VHF, 136-174MHz, 25-50W	136-174 MHz	NXR-710K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, UHF, 450-520MHz, 1-40W	450-520 MHz	NXR-810K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, UHF, 400-470MHz, 1-40W	400-470 MHz	NXR-810K2
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, VHF, 146-174MHz	146-174 MHz	NXR-700K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, VHF, 136-154MHz	136-154 MHz	NXR-700K2
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, VHF, 146-174MHz, 25W	146-174 MHz	NXR-700E
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, UHF, 450-480MHz, 1-5W	450-480 MHz	NXR-800K

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, UHF, 480-512MHz, 1-5W	480-512 MHz	NXR-800K2
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, UHF, 400-430MHz, 1-5W	400-430 MHz	NXR-800K3
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, UHF, 440-470MHz, 25W	440-470 MHz	NXR-800E
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, UHF, 400-430MHz, 25W	400-430 MHz	NXR-800E3
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, RX 806-825 MHz, TX 821-870 MHz	806-825 MHz	NXR-900K
1.0 - Fixed Stations	Kenwood USA Corporation	Repeater, Digital, RX 896-902MHz, TX 935-941MHz	896-902 MHz	NXR-901K
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Base Station, 146-174MHz (TKR-750K, KSGPS20200)	146-174 MHz	TKB7500PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Base Station, 146-174MHz (TKR-751K, KSGPS20200)	146-174 MHz	TKB7510PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Base Station, 450-480MHz (TKR-850K, KSGPS20200)	450-480 MHz	TKB8500PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Base Station, 450-480MHz (TKR-851K, KSGPS20200)	450-480 MHz	TKB8510PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Base Station, 136-174MHz (NXR-710K, KSGPS20200)	136-174 MHz	NXB7100PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Base Station, 450-520MHz (NXR-810K, KSGPS20200)	450-520 MHz	NXB8101PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Base Station, 400-470MHz (NXR-810K2, KSGPS20200)	400-470 MHz	NXB8102PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 146-174MHz (TKR-750K, KSGPS20200)	146-174 MHz	TKR7500PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 146-174MHz (TKR-751K, KSGPS20200)	146-174 MHz	TKR7510PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 450-480MHz (TKR-850K, KSGPS20200)	450-480 MHz	TKR8500PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 450-480MHz (TKR-851K, KSGPS20200)	450-480 MHz	TKR8510PS

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 136-174MHz (NXR-710K, KSGPS20200)	136-174 MHz	NXR7100PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 450-520MHz (NXR-810K, KSGPS20200)	450-520 MHz	NXR8101PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 400-470MHz (NXR-810K2, KSGPS20200)	400-470 MHz	NXR8102PS
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 148-160MHz (TKR-750K, KSGPS20200, KSGDX62001, KSGCB20008, KSGCB20010)	148-160 MHz	TKR7500PSD
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 148-160MHz (TKR-751K, KSGPS20200, KSGDX62001, KSGCB20008, KSGCB20010)	148-160 MHz	TKR7510PSD
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 450-460MHz (TKR-850K, KSGPS20200, KSGDX63002, KSGCB20008, KSGCB20010)	450-460 MHz	TKR8500PSD
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 450-460MHz (TKR-851K, KSGPS20200, KSGDX63002, KSGCB20008, KSGCB20010)	450-460 MHz	TKR8510PSD
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 148-160MHz (NXR-710K, KSGPS20200, KSGDX62001, KSGCB20008, KSGCB20010)	148-160 MHz	NXR7100PSD
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 450-460 MHz (NXR-810K, KSGPS20200, KSGDX63002, KSGCB20008, KSGCB20010)	450-460 MHz	NXR8101PSD
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K2, KSGPS20200, KSGDX63002, KSGCB20008, KSGCB20010)	450-460 MHz	NXR8102PSD
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 136-174MHz (NXR-710K, KSGPS20200, KTI-3M)	136-174 MHz	NXR7100PSI
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 450-520MHz (NXR-810K, KSGPS20200, KTI-3M)	450-520 MHz	NXR8101PSI
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station, 400-470MHz (NXR-810K2, KSGPS20200, KTI-3M)	400-470 MHz	NXR8102PSI
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 148-160MHz 9NXR-710K, KSGPS20201, KSGDX62001, KTI-3M, KSGCB20008,	148-160 MHz	NXR7100PSDI

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		KSGCB20010)		
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 450-460 MHz (NXR-810K, KSGPS20201, KSGDX63002, KTI-3M, KSGCB20008, KSGCB20010)	450-460 MHz	NXR8101PSDI
1.0 - Fixed Stations	Kenwood USA Corporation	Low Power Repeater Station with Duplexer, 450-460 MHz (NXR-810K2, KSGPS20201, KSGDX63002, KTI-3M, KSGCB20008, KSGCB20010)	450-460 MHz	NXR8102PSDI
1.0 - Fixed Stations	Kenwood USA Corporation	29.7-37.0MHz (TK-690HBK, KCH-10, KCT-23M2, KSGUT50002)	29.7-37.0 MHz	TKR-6900SK1
1.0 - Fixed Stations	Kenwood USA Corporation	35.0-43.0MHz (TK-690HBK, KCH-10, KCT-23M2, KSGUT50002)	35.0-43.0 MHz	TKB6900SK2
1.0 - Fixed Stations	Kenwood USA Corporation	40.0-50.0MHz (TK-690HBK, KCH-10, KCT-23M2, KSGUT50002)	40.0-50.0 MHz	TKB6900SK3
1.0 - Fixed Stations	Kenwood USA Corporation	Kenwood MAX Pro Workstation Bundle - Bundle Includes One (1) Operator Workstation PC, One (1) media Dock, Two (2) speakers, and power supply.		KMX9050410
1.0 - Fixed Stations	Kenwood USA Corporation	Kenwood MAX Pro Workstation Bundle, PC not included		KMX9050411
1.0 - Fixed Stations	Kenwood USA Corporation	Kenwood MAX Pro Workstation, Laptop Bundle Note: USB Headset included, Media Dock not included.		KMX9050412
1.1 - Fixed Station Accessories	Kenwood USA Corporation	6.25KHz "Very Narrow Bankd" Option high Stability Reference Oscillator Note: Only one KXK-3M# required per site for each 6.25KHz operation.		KXK-3M3
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Programming Software (TKR-740/840)		KPG-47DNK
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Programming Software (TKR-750/751/850/851)		KPG-91DNK
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Programming Software (NXR-710/810)		KPG-129DNK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	TKR-750 Service Manual		B51-8556-20
1.1 - Fixed Station Accessories	Kenwood USA Corporation	TKR-751 Service Manual		B51-8683-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	TKR-850 Service Manual		B51-8557-30
1.1 - Fixed Station Accessories	Kenwood USA Corporation	TKR-851 Service Manual		B51-8684-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-710 Service Manual		B51-8901-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-810 Service Manual		B51-8902-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	2RU Desktop Enclosure - 16" deep by 20.5" wide by 5" high		KSGMT30001
1.1 - Fixed Station Accessories	Kenwood USA Corporation	4RU Desktop Enclosure - 16" deep by 20.5" wide by 8.5" high		KSGMT30004
1.1 - Fixed Station Accessories	Kenwood USA Corporation	DC Switching Power Supply		KSGPS20200
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Duplexer, VHF, 148-160MHz, 6 cavities, 4.5MHz sep, N-F		KSGDX62001
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Duplexer, UHF, 440-470MHz, 6 cavities, 5MHz sep, N-F		KSGDX63002
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Cable, 10" 90 deg N-M to 90 deg BNC-M, RG-142 coaxial		KSGCB20008
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Cable, 10" 90 deg N-M to 90 deg N-M, RG-142 coaxial		KSGCB20010
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Power Supply, 20A, no meter, RM-2512 w/BB6 & 8 place fuse		KSGPS20201
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-Series Programming Cable		KSGCB60004
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Repeater Programming Software NXR-700/800		KPG-109DNK
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Nexedge Repeater Monitoring Software		KPG-149RM

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-700 Service Manual		B51-8794-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-800 Service Manual		B51-8795-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-700 Supplement Manual		B51-8826-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-800 Supplement Manual		B51-8827-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-900 Service Manual		B51-8946-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NXR-901 Service Manual		B53-7004-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	TK-690 Service Manual		B51-8460-10
1.1 - Fixed Station Accessories	Kenwood USA Corporation	TKR-740 Service Manual		B51-8505-10
1.1 - Fixed Station Accessories	Kenwood USA Corporation	TKR-840 Service Manual		B51-8506-00
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-174MHz, 3W Input, 25-50W Output RF Base Station Amp (K and K2 Models)	136-174 MHz	KSGPA22423
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-144MHz, 3W Input, 55-110W Output RF Base Station Amp (K and K2 Models)	136-144 MHz	KSGPA22400
1.1 - Fixed Station Accessories	Kenwood USA Corporation	144-152MHz, 3W Input, 55-110W Output RF Base Station Amp (K and K2 Models)	144-152 MHz	KSGPA22410
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 3W Input, 55-110W Output RF Base Station Amp (K and K2 Models)	152-162 MHz	KSGPA22420
1.1 - Fixed Station Accessories	Kenwood USA Corporation	162-174MHz, 3W Input, 55-110W Output RF Base Station Amp (K and K2 Models)	162-174 MHz	KSGPA22430
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-144MHz, 3W Input, 150W Output RF Base Station Amp (K and K2 Models)	136-144 MHz	KSGPA22451
1.1 - Fixed Station Accessories	Kenwood USA Corporation	144-152MHz, 3W Input, 150W Output RF Base Station Amp (K and K2 Models)	144-152 MHz	KSGPA22452
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 3W Input, 150W Output RF Base Station Amp (K and K2 Models)	152-162 MHz	KSGPA22453

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	162-174MHz, 3W,Input, 150W Output RF Base Station Amp (K and K2 Models)	162-174 MHz	KSGPA22454
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 3W Input, 250W Output RF Base Station Amp (K and K2 Models)	152-162 MHz	KSGPA22258
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-174MHz, 25W Input, 25-50W Output RF Base Amp (E Model)	136-174 MHz	KSGPA22523
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-174MHz, 25W Input, 55-110W Output RF Base Station Amp	136-174 MHz	KSGPA22500
1.1 - Fixed Station Accessories	Kenwood USA Corporation	144-152MHz, 25W Input, 55-110W Output RF Base Amp (E Model)	144-152 MHz	KSGPA22510
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 25W Input, 55-110W Output RF Base Amp (E Model)	152-162 MHz	KSGPA22520
1.1 - Fixed Station Accessories	Kenwood USA Corporation	162-174MHz, 25W Input, 55-110 Output RF Base Amp (E Model)	162-174 MHz	KSGPA22530
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-144MHz, 25W Input, 150W Output RF Base Station Amp	136-144 MHz	KSGPA22551
1.1 - Fixed Station Accessories	Kenwood USA Corporation	144-152MHz, 25W Input, 150W Output RF Base Amp (E Model)	144-152 MHz	KSGPA22552
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 25W Input, 150W Output RF Base Amp (E Model)	152-162 MHz	KSGPA22553
1.1 - Fixed Station Accessories	Kenwood USA Corporation	162-174MHz, 25W Input, 150W Output RF Base Amp (E Model)	162-174 MHz	KSGPA22554
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-174MHz, 3W Input, 25-50W Output RF Repeater Station Amp (K and K2 Models)	136-174 MHz	KSGPA22403
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-144MHz, 3W Input, 55-110W Output RF Repeater Station Amp (K and K2 Models)	136-144 MHz	KSGPA22411
1.1 - Fixed Station Accessories	Kenwood USA Corporation	144-152MHz, 3W Input, 55-110W Output RF Repeater Station Amp (K and K2 Models)	144-152 MHz	KSGPA22412
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 3W Input, 55-110W Output RF Repeater Station Amp (K and K2 Models)	152-162 MHz	KSGPA22413
1.1 - Fixed Station Accessories	Kenwood USA Corporation	162-174MHz, 3W Input, 55-110W Output RF Repeater Station Amp (K and K2 Models)	162-174 MHz	KSGPA22414
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-144MHz, 3W Input, 150W Output RF Repeater Station Amp (K and K2 Models)	136-144 MHz	KSFP22441

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	144-152MHz, 3W Input, 150W Output RF Repeater Station Amp (K and K2 Models)	144-152 MHz	KSGPA22442
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 3W Input, 150W Output RF Repeater Station Amp (K and K2 Models)	152-162 MHz	KSGPA22443
1.1 - Fixed Station Accessories	Kenwood USA Corporation	162-174MHz, 3W Input, 150W Output RF Repeater Station Amp (K and K2 Models)	162-174 MHz	KSGPA22444
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 3W Input, 250W Output RF Repeater Station Amp (K and K2 Models)	152-162 MHz	KSGPA22253
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-174MHz, 25W Input, 25-50W Output RF Repeater Amp (E Model)	136-174 MHz	KSGPA22503
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-144MHz, 25W Input, 55-110W Output RF Repeater Amp	136-144 MHz	KSGPA22511
1.1 - Fixed Station Accessories	Kenwood USA Corporation	144-152MHz, 25W Input, 55-110W Output RF Repeater Amp (E Model)	144-152 MHz	KSGPA22512
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 25W Input, 55-110W Output RF Repeater Amp (E Model)	152-162 MHz	KSGPA22513
1.1 - Fixed Station Accessories	Kenwood USA Corporation	162-174MHz, 25W Input, 55-110W Output RF Repeater Amp (E Model)	162-174 MHz	KSGPA22514
1.1 - Fixed Station Accessories	Kenwood USA Corporation	136-144MHz, 25W Input, 150W Output RF Repeater Amp	136-144 MHz	KSGPA22541
1.1 - Fixed Station Accessories	Kenwood USA Corporation	144-152MHz, 25W Input, 150W Output RF Repeater Amp (E Model)	144-152 MHz	KSGPA22542
1.1 - Fixed Station Accessories	Kenwood USA Corporation	152-162MHz, 25W Input, 150W Output RF Repeater Amp (E Model)	152-162 MHz	KSGPA22543
1.1 - Fixed Station Accessories	Kenwood USA Corporation	162-174MHz, 25W Input, 150W Output RF Repeater Amp (E Model)	162-174 MHz	KSGPA22544
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 3W Input, 20-40W Output RF Base Station Amp (K, K2, K3 Models)	406-450 MHz	KSGPA23421
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 3W Input, 20-40W Output RF Base Station Amp (K, K2, K3 Models)	450-512 MHz	KSGPA23423
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 3W Input, 50-100W Output RF Base Station Amp (K, K2, K3 Models)	406-450 MHz	KSGPA23400
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 3W Input, 50-100W Output RF Base Station Amp (K, K2, K3 Models)	450-512 MHz	KSGPA23420

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 3W Input, 150W Output RF Base Station Amp (K, K2, K3 Models)	406-450 MHz	KSGPA23451
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 3W Input, 150W Output RF Base Station Amp (K, K2, K3 Models)	450-512 MHz	KSGPA23453
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 25W Input, 20-40W Output RF Base Station Amp (E and E3 Models)	406-450 MHz	KSGPA23521
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 25W Input, 20-40W Output RF Base Station Amp (E and E3 Models)	450-512 MHz	KSGPA23523
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 25W Input, 50-100W Output RF Base Station Amp (E and E3 Models)	406-450 MHz	KSGPA23500
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 25W Input, 50-100W Output RF Base Station Amp (E and E3 Models)	450-512 MHz	KSGPA23520
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 25W Input, 150W Output RF Base Station Amp (E and E3 Models)	406-450 MHz	KSGPA23551
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 25W Input, 150W Output RF Base Station Amp (E and E3 Models)	450-512 MHz	KSGPA23553
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 3W Input, 20-40W Output RF Repeater Station Amp (K, K2, and K3 Models)	406-450 MHz	KSGPA23401
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 3W Input, 20-40W Output RF Repeater Station Amp (K, K2, and K3 Models)	450-512 MHz	KSGPA23403
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 3W Input, 50-100W Output RF Repeater Station Amp (K, K2, and K3 Models)	406-450 MHz	KSGPA23411
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 3W Input, 50-100W Output RF Repeater Station Amp (K, K2, and K3 Models)	450-512 MHz	KSGPA23413
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 3W Input, 150W Output RF Repeater Station Amp (K, K2, and K3 Models)	450-512 MHz	KSGPA23441
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 3W Input, 150W Output RF Repeater Station Amp (K, K2, and K3 Models)	450-512 MHz	KSGPA23443
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 25W Input, 20-40W Output RF Repeater Station Amp (E and E3 Models)	406-450 MHz	KSGPA23501
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 25W Input, 20-40W Output RF Repeater Station Amp (E and E3 Models)	450-512 MHz	KSGPA23503
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 25W Input, 50-100W Output RF Repeater Station Amp (E and E3 Models)	406-450 MHz	KSGPA23511

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 25W Input, 50-100W Output RF Repeater Station Amp (E and E3 Models)	450-512 MHz	KSGPA23513
1.1 - Fixed Station Accessories	Kenwood USA Corporation	406-450MHz, 25W Input, 150W Output RF Repeater Station Amp (E and E3 Models)	406-450 MHz	KSGPA23541
1.1 - Fixed Station Accessories	Kenwood USA Corporation	450-512MHz, 25W Input, 150W Output RF Repeater Station Amp (E and E3 Models)	450-512 MHz	KSGPA23543
1.1 - Fixed Station Accessories	Kenwood USA Corporation	764-870MHz, 250mW Input, 75W Output RF Repeater Station Amp	764-870 MHz	KSGPA24181
1.1 - Fixed Station Accessories	Kenwood USA Corporation	764-870MHz, 250mW Input, 130W Output RF Repeater Station Amp	764-870 MHz	KSGPA24131
1.1 - Fixed Station Accessories	Kenwood USA Corporation	928-943MHz, 250mW Input, 75W Output RF Repeater Station Amp	928-943 MHz	KSGPA25172
1.1 - Fixed Station Accessories	Kenwood USA Corporation	935-940MHz, 250mW Input, 130W Output RF Repeater Station Amp	935-940 MHz	KSGPA25132
1.1 - Fixed Station Accessories	Kenwood USA Corporation	30-36MHz, 50W Input, 100W Output RF Amp	30-36 MHz	KSGPA21101
1.1 - Fixed Station Accessories	Kenwood USA Corporation	36-42MHz, 50W Input, 100W Output RF Amp	36-42 MHz	KSGPA21102
1.1 - Fixed Station Accessories	Kenwood USA Corporation	42-50MHz, 50W Input, 100W Output RF Amp	42-50 MHz	KSGPA21103
1.1 - Fixed Station Accessories	Kenwood USA Corporation	30-36MHz, 50W Input, 250W Output RF Amp	30-36 MHz	KSGPA21251
1.1 - Fixed Station Accessories	Kenwood USA Corporation	36-42MHz, 50W Input, 250W Output RF Amp	36-42 MHz	KSGPA21252
1.1 - Fixed Station Accessories	Kenwood USA Corporation	42-50MHz, 50W Input, 250W Output RF Amp	42-50 MHz	KSGPA21253
1.1 - Fixed Station Accessories	Kenwood USA Corporation	P25 Controller (KSGCT50401, KSGCP402, KSGMS00122) Note: P25 Controller includes PCC box, hardware, channel card and cable.		KSGCP401
1.1 - Fixed Station Accessories	Kenwood USA Corporation	P25 Channel Card Note: Required for additional repeaters at the same site.		KSGCP402

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply Note: Incompatible with 150W or 250W amplifier option.		KSGPS20400
1.1 - Fixed Station Accessories	Kenwood USA Corporation	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger Note: Incompatible with 150W or 250W amplifier option.		KSGPS20352
1.1 - Fixed Station Accessories	Kenwood USA Corporation	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply		KSGPS20701
1.1 - Fixed Station Accessories	Kenwood USA Corporation	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger		KSGPS20702
1.1 - Fixed Station Accessories	Kenwood USA Corporation	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)		KSGMRCK3
1.1 - Fixed Station Accessories	Kenwood USA Corporation	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)		KSGMRCK7
1.1 - Fixed Station Accessories	Kenwood USA Corporation	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)		KSGMCAB4
1.1 - Fixed Station Accessories	Kenwood USA Corporation	42" (20RU) Locking Cabinet		KSGMT20020
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Crate for 42" (20RU) Locking Cabinet Note: Optional for situations where extra protection during transportation is required.		KSGMT0C20U
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Cabinet Solid Top Panel		KSGMT20001
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Cabinet Fan Top Assembly		KSGMT20002
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)		KSGMT20003
1.1 - Fixed Station Accessories	Kenwood USA Corporation	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) Note: 2 or 4 wire, 600-Ohm balanced audio with monitor.		KSGTN02A
1.1 - Fixed Station Accessories	Kenwood USA Corporation	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801)		KSGTN02N

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		Note: 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.		
1.1 - Fixed Station Accessories	Kenwood USA Corporation	10 Channel BCD Tone Termination Panel (KSGTM10010, KSGBCDCASE, KSGCB32801)		KSGTN10A
1.1 - Fixed Station Accessories	Kenwood USA Corporation	16 Channel Tone Termination Panel Note: 2 or 4 wire, 600-Ohm balanced audio with monitor.		KSGTM20016
1.1 - Fixed Station Accessories	Kenwood USA Corporation	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) Note: 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.		KSGTDC2A
1.1 - Fixed Station Accessories	Kenwood USA Corporation	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) Note: 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.		KSGTALD1
1.1 - Fixed Station Accessories	Kenwood USA Corporation	8-Port Managed Network Switch with Mounting Tray		KSGNS10008
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Rack Mounted 24-Port Managed Network Switch		KSGNS10024
1.1 - Fixed Station Accessories	Kenwood USA Corporation	4-Port Managed VPN Router with Mounting Tray		KSGRT10004
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Repeater Trunking Feature Note: One Feature required for each trunking repeater.		KSGPG91800
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Multi-Site Networking Feature Note: One required for each of the first five sites to be networked; sites 6 through 16 are available at no additional charge.		KSGPG91810
1.1 - Fixed Station Accessories	Kenwood USA Corporation	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) Note: Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)		KSGPGKEYSM

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	System Manager Trunking Software Note: Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..		KPG-110SMK
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Grade-1 Unlimited Access Secure USB Programming Key		KSGPGKEY01
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Grade-2 Limited Access Secure USB Programming Key		KSGPGKEY02
1.1 - Fixed Station Accessories	Kenwood USA Corporation	LTR Dispatch Trunking Controller (KSGCT11040, KSGCB30532)		KSGC040L
1.1 - Fixed Station Accessories	Kenwood USA Corporation	LTR Dispatch & Interconnect Trunking Controller (KSGCT11050, KSGCB30532)		KSGC050L
1.1 - Fixed Station Accessories	Kenwood USA Corporation	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)		KSGC452L
1.1 - Fixed Station Accessories	Kenwood USA Corporation	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)		KSGC459L
1.1 - Fixed Station Accessories	Kenwood USA Corporation	6 Cavity VHF BpBr Duplexer Note: Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.		KSGDX12556
1.1 - Fixed Station Accessories	Kenwood USA Corporation	6 Cavity UHF BpBr Duplexer (450-470MHz Only) Note: Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.		KSGDX13546
1.1 - Fixed Station Accessories	Kenwood USA Corporation	4 Cavity UHF BpBr Duplexer (450-470MHz Only) Note: Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.		KSGDX23101
1.1 - Fixed Station Accessories	Kenwood USA Corporation	4 Cavity 800MHz BpBr Duplexer Note: Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.		KSGDX14644

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	4 Cavity 900MHz BpBr Duplexer Note: Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.		KSGDX15044
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Basic Site Management Modem (KSGMD10001, KSGCB22154) Note: Modem 2400 bps to be used with LTR controllers, includes interface cable.		KSGOMOD1
1.1 - Fixed Station Accessories	Kenwood USA Corporation	High Performance Site Management Modem (KSGMD20000, KSGCB22154) Note: Modem 2400 bps, extra stability in high RF environments, includes interface cable.		KSGOMOD2
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Signal-to-Noise Modular Voting Comparator Note: 19" rack mount; occupies 3RU. Order Station Module Cards below.		KSGSNV12
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Station Module Card for Signal-to-Noise Voter (SVM-2)		KSGVOT2A
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Pilot Tone Generator and Line Driver (PTG-10) Note: For use with voting systems, supplies 600 Ohm balanced 2-wire audio.		KSGOPTG1
1.1 - Fixed Station Accessories	Kenwood USA Corporation	CWID Morse Code Generator		KSGOCWID
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Relay Antenna, x10 Series, 50W		KSGMS10010
1.1 - Fixed Station Accessories	Kenwood USA Corporation	2RU Utility Tray for Mounting Equipment TK-690HBK/K2/K3		KSGUT50002
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Rack, Equipment, 3' Tall, 19 Inches Wide		KSGMT13000
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Crate for 3' Rack		KSGMT0C03R
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Rack, Equipment, 7' Tall, 19 Inches Wide		KSGMT17000
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Crate for 7' Rack		KSGMT0C07R
1.1 - Fixed Station	Kenwood USA	Cabinet, 40U w/Hardware Kit Pre-Punched		KSGMT20040

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
Accessories	Corporation	Pontoon Base		
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Crate for 40U Cabinet		KSGMT0C40U
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor		KSGTM10012
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Case, Tone Term Panel		KSGTM10TCS
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Cable, Interface, Tone to '50		KSGCB32801
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor		KSGTM10060
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Case, Tone Term Panel (N-Series)		KSGTM20TCS
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Term panel, DC, 2ch, 2/4-wire, full duplex		KSGTM10003
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Panel, Tone Term, 10 ch., with case, full dupl, 2 or 4 wire, w/mon		KSGTM10010
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Case, Ton Term Panel		KSGBCDCASE
1.1 - Fixed Station Accessories	Kenwood USA Corporation	600 Ohm Balanced Line Driver		KSGTM10021
1.1 - Fixed Station Accessories	Kenwood USA Corporation	PCC Box, Ancillary Hardware TKR-740/840(P)		KSGCT50401
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Panel, Front TKR-740/840(P)		KSGMS00122
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Relay Antenna, x50 Series, 50W		KSGMS10050
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Relay, Antenna, x40 Series, 5W		KSGMS10040
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Controller, Dispatch Trunking (Trident Raider)		KSGCT11040
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)		KSGCB30532

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Controller, Dispatch Trunking with Interconnect (Trident Maurader)		KSGCT11050
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Controller, Dispatch Trunking (Zetron Model 452)		901-9570
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)		905-0123
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Modem, USR		KSGMD10001
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Cable, 54", DB-9 Female (Controller) to DB-25 Male (Modem)		KSGCB22154
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Modem, Tuff, with power cable and interface cable		KSGMD20000
1.1 - Fixed Station Accessories	Kenwood USA Corporation	1RU Mounting Tray Note: Provides mounting space for up to two accessories.		KSGUT10001
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Voting System Option		KWD-NX10VTR
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Pro Software		KMX9300258
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Headset, 6-wire, Noise Cancelling Note: Dual Prong adapter which includes one headset top.		950-0032
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Headset 4-Wire, Noise Cancelling Note: Dual Prong adapter which includes one headset top.		950-0033
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Wireless Headset, 6-Wire, Noise Canceling (includes 1 additional battery) Note: Plantronics CA12CD improved belt-mounted PTT pack has secure battery retention and accepts Plantronics H-Series headset tops.		950-0454
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Headset Top, Noise Cancelling		802-0115
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Kenwood Desktop Microphone, Standard with Cable		KMX9050413

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Kenwood Desktop Microphone, Shure with Cable		KMX9050414
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Kenwood Media Dock XS Kit		KMX9019695
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Kenwood Speakers Single (Cable Separate)		KMX9500884
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Footswitch, Single w/ 10' cable		950-9102
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Dual Prong Headset Jackbox Option (Single Volume Control)		950-1082
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Dual Prong Headset Jackbox Option (Dual Volume Control) Note: Required for TRHI functionality.		950-1077
1.1 - Fixed Station Accessories	Kenwood USA Corporation	10 ft. Shielded Cat 5e cable for Speakers		709-0170-10
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Model 6080 Relay Module		901-9674
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Kenwood MAX Digital Radio Gateway Note: Required when interfacing via IP directly to a NEXEDGE®DMR, or P25 DFSI System.		KMX9019692
1.1 - Fixed Station Accessories	Kenwood USA Corporation	NEXEDGE® Talkpath Interface Note: Requires license for each NEXEDGE® Talkpath monitored at the console.		KMX9300264
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Radio Gateway Conventional (DB15) Hardware Note: This hardware variant is used when the radio is co-located with the MAX Radio Gateway and the cable can run directly from the unit to the radio itself. This device supports 2 radio connections. Includes one 10' shielded Cat 5e cable.		901-9675
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Interface License (TK-x180,TK-5x10, NX-800/900) Note: Per Channel		930-0229

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SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Radio Gateway to Kenwood Radios (TK-x180, TK-5x10, NX-700/800/900) Cable (10 ft.)		709-7977-10
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Radio Gateway to Kenwood Radios (TK-x180, TK-5x10, NX-700/800/900) Cable (20 ft.)		709-7977-20
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Radio Gateway Conventional (RJ21) Hardware Note: This hardware variant is used when the site requires that the interconnects to be demarcated on punch down blocks. This device supports 2 radio connections. Includes one 10' shielded Cat 5e cable.		901-9677
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Interface License (TK-x180, TK-5x10, NX-800/900) Note: Per Channel		930-0229
1.1 - Fixed Station Accessories	Kenwood USA Corporation	25-pr Cable, M180-M90 (10 ft.)		709-0167-10
1.1 - Fixed Station Accessories	Kenwood USA Corporation	25-pr Cable, M180-M90 (25 ft.)		709-0167-25
1.1 - Fixed Station Accessories	Kenwood USA Corporation	25-pr Cable, M180-M90 (50 ft.)		709-0167-50
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Kenwood MAX Central Note: Hardware platform hosting the MAX Manager, Telephony Gateway, IP Voice Logger Gateway, and the Auxiliary I/O Gateway. Includes five (5) 10 ft. shielded CAT5e cables for connectivity.		KMX9019694
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Manager Note: Required for each MAX System.		930-0231
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Fleetsync Signaling		930-0263
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Block of 10 Radio Channels Licenses Note: Up to 50 Channels in the systems. Beyond 50 channels please contact Kenwood for pricing		930-0221

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	IP Voice Logger Channel Block License (Up to 10 radio channels)		930-0237
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Auxiliary I/O Port License (Supports inputs and outputs up to 32)		930-0239
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Auxiliary I/O Unit - 16 Inputs/16 Outputs		950-1132
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Auxiliary I/O Unit - 16 Inputs/8 Outputs		950-1147
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Expansion Auxiliary I/O Unit - 16 Inputs/16 Outputs		950-1149
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Expansion Auxiliary I/O Unit - 16 Inputs/8 Outputs		950-1148
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Telephone Gateway Services (1 per Max Central)		930-0235
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Telephony Port License (1 license per line connection) Note: License not required if purchasing one of the gateways above.		930-0236
1.1 - Fixed Station Accessories	Kenwood USA Corporation	2 Port FXS VoIP Gateway with 2 port license Note: Unit requires use of 19" Rack 2U shelf (810-0142).		950-1130
1.1 - Fixed Station Accessories	Kenwood USA Corporation	12 Port FXS VoIP Gateway with 12 port license		950-1131
1.1 - Fixed Station Accessories	Kenwood USA Corporation	2 Port FXO VoIP Gateway with 2 port license Note: Unit requires use of 19" Rack 2U shelf (810-0142).		950-1138
1.1 - Fixed Station Accessories	Kenwood USA Corporation	12 Port FXO VoIP Gateway with 12 port license		950-1139
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Portal Remote Radio License Note: One remote Portal license is needed per Radio Gateway that is designated as remote device.		930-0233
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Redundant 12VDC Power System Note: Supports up to 20 MAX Dispatch devices and includes 19" rack mount enclosure.		950-1142

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Redundant 12VDC Power System Note: Supports up to 40 MAX Dispatch devices and includes 19" rack mount enclosure.		950-1143
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Isolated 12VDC Power Supply System (non-Redundant) Note: Supports up to 20 MAX Dispatch devices		950-1133
1.1 - Fixed Station Accessories	Kenwood USA Corporation	12VDC Power Distribution Panel Note: Supports up to 40 MAX Dispatch devices.		950-1134
1.1 - Fixed Station Accessories	Kenwood USA Corporation	DIN Rail Mounting Kit Note: Generic Rack Mount Kit used for extra power supply mounting or other devices using DIN rail mounting.		950-1135
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Radio Gateway Power Supply Option Note: Used for powering one Radio Gateway.		950-0923
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Radio Interface Module Single Unit Rack Mount Kit		950-0589
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Radio Interface Module Dual Unit Rack Mount Kit		950-0588
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Connectorized Punch down Block		950-9351
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Connectorized Punch down Block (Protected) [Baseline Product]		950-9199
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Protection Modules for 66-Block		802-0230
1.1 - Fixed Station Accessories	Kenwood USA Corporation	19" Rack 2U Shelf		810-0142
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Monitor, LCD Flatpanel, 23" (Resolution 1920 X 1080) (Recommended)		802-2311
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Monitor, LCD Flatpanel, 22" (Resolution 1680 X 1050)		802-0748
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Tech Global 23" WS Multi-Touch Monitor (Resolution 1920 X 1080)		802-2313
1.1 - Fixed Station Accessories	Kenwood USA Corporation	HP 21.5" WS Multi-Touch Monitor (Resolution 1920 X 1080)		802-2206

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SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	24-Port Managed Gigabit Switch - Cisco		950-1128
1.1 - Fixed Station Accessories	Kenwood USA Corporation	48-Port Managed Gigabit Switch - Cisco		950-1129
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Solutions Workstation PC		KMX9501136
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch Manual Set Note: CD includes complete suite of MAX Dispatch Manuals.		395-0098
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX System Overview Manual		025-9638
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX System Installation Manual		025-9645
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Radio Gateway (DB15) Product Manual		025-9624
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Radio Gateway (RJ21) Product Manual		025-9648
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Operation Manual		025-9649
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Central Product Manual		025-9647
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch Console Design Manual		025-9650
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Model 6080 Manual		025-9630
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Digital Radio Gateway Product Manual		025-9625
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Media Dock XS Manual		025-9658
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch Factory Technical Training, First Person		X97-344F
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch Factory Technical Training, Additional person		X97-344A

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SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch On-site Training, First Day		X98-344F
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch On-site Training, Additional Day		X98-344A
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch On-site Training, Travel Day		X98-9344
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch On-site Technical Support, First Day		X93-344F
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch On-site Technical Support, Additional Day		X93-344A
1.1 - Fixed Station Accessories	Kenwood USA Corporation	MAX Dispatch On-site Technical Support, Travel Day		X93-344R
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Extended Limited Warranty per year (4% of System List Price)		X61-1344
1.1 - Fixed Station Accessories	Kenwood USA Corporation	Extended Limited Warranty 5 year from Ship Date (14% of System List Price)		X61-5344
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz 50W, 260 CH / 128 Zone	136-174 MHz	NX-720HGK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 450-520 MHz 50W, 260 CH / 128 Zone	450-520 MHz	NX-820HGK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 400-470 MHz 45W, 260 CH / 128 Zone	400-470 MHz	NX-820HGK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz 45W, 512 CH / 128 Zone	136-174 MHz	NX-700K
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz 50W, 512 CH / 128 Zone	136-174MHz	NX-700HK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 450-520 MHz 30W, 512 CH / 128 Zone	450-520 MHz	NX-800K
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 400-470 MHz 30W, 512 CH / 128 Zone	400-470 MHz	NX-800K2
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 450-520 MHz 45W, 512 CH / 128 Zone	450-520 MHz	NX-800HK

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SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 400-470 MHz 45W, 512 CH / 128 Zone	400-470 MHz	NX-800HK2
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 806-870 MHz 15W, 512 CH/128 Zone	806-807 MHz	NX-900K
2.0 - MOBILE RADIOS	Kenwood USA Corporation	Digital 896-941 MHz 15W, 512 CH/128 Zone [Available 1st Qtr 2012]	896-941 MHz	NX-901K
2.0 - MOBILE RADIOS	Kenwood USA Corporation	29.7-37.0 MHz, 110W, 160 Channels (R.F. DECK ONLY)	23.7-37.0 MHz	TK-690HBK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	35.0-43.0 MHz, 110W, 160 Channels (R.F. DECK ONLY)	35.0-43.0 MHz	TK-690HBK2
2.0 - MOBILE RADIOS	Kenwood USA Corporation	39.0-50.0 MHz, 110W, 160 Channels (R.F. DECK ONLY)	39.0-50.0 MHz	TK-690HBK3
2.0 - MOBILE RADIOS	Kenwood USA Corporation	148-174 MHz, 45W, 160 Channels (R.F. DECK ONLY)	148-174MHZ	TK-790BK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	148-174 MHz, 110W, 160 Channels (R.F. DECK ONLY)	148-174 MHz	TK-790HBK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	450-490 MHz, 40W, 160 Channels (R.F. DECK ONLY)	450-490 MHz	TK-890BK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	480-512 MHz, 40W, 160 Channels (R.F. DECK ONLY)	480-512 MHz	TK-890BK2
2.0 - MOBILE RADIOS	Kenwood USA Corporation	450-480 MHz, 100/75W, 160 Channels (R.F. DECK ONLY)	450-480 MHz	TK-890HBK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	136-174 MHz 30W, 512 CH / 128 Zone CONV-& LTR	136-174 MHz	TK-7180K
2.0 - MOBILE RADIOS	Kenwood USA Corporation	136-174 MHz 50W, 512 CH / 128 Zone CONV-& LTR	136-174 MHz	TK-7180HK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	450-520 MHz 30W, 512 CH / 128 Zone CONV-& LTR	450-520 MHz	TK-8180K
2.0 - MOBILE RADIOS	Kenwood USA Corporation	450-520 MHz 45W, 512 CH / 128 Zone CONV-& LTR	450-520 MHz	TK-8180HK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	400-470 MHz 30W, 512 CH / 128 Zone CONV-& LTR	400-470 MHz	TK-8180K2

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
2.0 - MOBILE RADIOS	Kenwood USA Corporation	400-470 MHz 45W, 512 CH / 128 Zone CONV-& LTR	400-470 MHz	TK-8180HK2
2.0 - MOBILE RADIOS	Kenwood USA Corporation	136-174 MHz 50W, 16 CH / 2 Zone Conventional	136-174 MHz	TK-7302HVK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	450-520 MHz 45W, 16 CH / 2 Zone Conventional	450-520 MHz	TK-8302HUK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	136-174 MHz 50W, 128 CH/128 Zone CONV-& LTR	136-174 MHz	TK-7360HVK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	450-520 MHz 45W, 128CH/128 Zone CONV-& LTR	450-520 MHz	TK-8360HUK
2.0 - MOBILE RADIOS	Kenwood USA Corporation	VHF Low Band 29.7 – 37.0 MHz 70W, 32 Channels	29.7-37.0 MHz	TK-6110K
2.0 - MOBILE RADIOS	Kenwood USA Corporation	VHF Low Band 35.0 – 50.0 MHz 70W, 32 Channels	35.0-50.0 MHz	TK-6110K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	136-174 MHz	NX-200K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	136-174 MHz	NX-200K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, Non-Display	136-174 MHz	NX-200SK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys IP67 (Immersion)	136-174 MHz	NX-200-WK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys, Full Keypad IP67 (Immersion)	136-174 MHz	NX-200-WK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys IP67 (Immersion) Custom Color Housing (Yellow)	136-174 MHz	NX-200-WK-YH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys IP67 (Immersion) Custom Color Housing (Orange)	136-174 MHz	NX-200-WK-OH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys Factory	136-174 MHz	NX-200-ISK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		Mutual (FM) Approved		
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys, Full Keypad Factory Mutual (FM) Approved	136-174 MHz	NX-200-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, Non-Display Factory Mutual (FM) Approved	136-174 MHz	NX-200-ISSK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys Factory Mutual (FM) Approved, IP67 (Immersion)	136-174 MHz	NX-200-ISWK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved, IP67 (Immersion)	136-174 MHz	NX-200-ISWK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Yellow)	136-174 MHz	NX-200-ISWKYH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 136-174 MHz, 5W, 14 Characters Alphanumeric LCD, 6 Control Keys Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Orange)	136-174 MHz	NX-200-ISWKOH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	136-174 MHz	NX-210K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full KeypadVHF Li-Ion Battery Package (NX-210K2 + KNB-33L + KSC- 32 + KBH-11 + KRA-26M)	136-174 MHz	NX-210K2-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 64 CH	136-174 MHz	NX-220K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys	136-174 MHz	NX-220K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad	136-174 MHz	NX-220K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 64 CH, SGS US I.S. Approved	136-174 MHz	NX-220-ISK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, SGS US I.S. Approved	136-174 MHz	NX-220-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad, SGS US I.S. Approved	136-174 MHz	NX-220-ISK3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, VHF Basic Package (NX-220K2 + KNB-56N + KSC-30 + KRA-26M)	136-174 MHz	NX-220K2-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, VHF Standard Slim Package (NX-220K2 + KNB-55L + KSC-25 + KRA-26M)	136-174 MHz	NX-220K2-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, VHF Premium Package (NX-220K2 + KNB-57L + KSC-25 + KRA-26M)	136-174 MHz	NX-220K2-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, VHF Li-ion Value Package (NX-220K2 + KNB-55L + KSC-25L + KRA-26M)	136-174 MHz	NX-220K2-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 260 CH, VHF Hi-Cap Li-ion Value Package (NX-220K2 + KNB-57L + KSC-25L + KRA-26M)	136-174 MHz	NX-22K2-LKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	450-520 MHz	NX-300K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	400-470 MHz	NX-300K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	450-520 MHz	NX-300K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	400-470 MHz	NX-300K4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, Non-Display	400-470 MHz	NX-300SK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion)	450-520 MHz	NX-300-WK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67	400-470 MHz	NX-300-WK2

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		(Immersion)		
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad IP67 (Immersion)	450-520 MHz	NX-300-WK3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, IP67 (Immersion)	400-470 MHz	NX-300-WK4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion), Custom Color Housing (Yellow)	450-520 MHz	NX-300-WK-YH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion), Custom Color Housing (Orange)	450-520 MHz	NX-300-WK-OH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion) Custom Color Housing (Yellow)	400-470 MHz	NX-300-WK2-YH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion) Custom Color Housing (Orange)	400-470 MHz	NX-300-WK2-OH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved	450-520 MHz	NX-300-ISK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys Factory Mutual (FM) Approved	400-470 MHz	NX-300-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved	450-520 MHz	NX-300-ISK3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved	400-470 MHz	NX-300-ISK4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470 MHz 5W, Non-Display, Factory Mutual (FM) Approved	400-470 MHz	NX-300-ISSK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion)	450-520 MHz	NX-300-ISWK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion)	400-470 MHz	NX-300-ISWK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Fullkeypad, Factory Mutual (FM) Approved, IP67 (Immersion)	450-520 MHz	NX-300-ISWK3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved, IP67 (Immersion)	400-470 MHz	NX-300-ISWK4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Yellow)	450-520 MHz	NX-300-ISWKYH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion) Custom Color Housing (Orange)	450-520 MHz	NX-300-ISWKOH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Yellow)	400-470 MHz	NX-300-ISWK2YH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Digital 400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion) Custom Color Housing (Orange)	400-470 MHz	NX-300-ISWK2OH
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 64 CH	450.-520 MHz	NX-320K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys	450-520 MHz	NX-320K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, Full Keypad	450-520 MHz	NX-320K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 64 CH	400-470 MHz	NX-320K4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 64 CH	400-470 MHz	NX-320K5

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 260 CH, 8 Characters, Alphanumeric LCD, 4 PF Keys, Full Keypad	400-470 MHz	NX-320K6
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 64 CH	450-520 MHz	NX-320-ISK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, SGS US I.S. Approved	450-520 MHz	NX-320-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, Full Keypad, SGS US I.S. Approved	450-520 MHz	NX-320-ISK3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 64 CH, SGS US I.S. Approved	400-470 MHz	NX-320-ISK4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, SGS US I.S. Approved	400-470 MHz	NX-320-ISK5
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, Full Keypad, SGS US I.S. Approved	400-470 MHz	NX-320-ISK6
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, UHF Basic Package (NX-320K2 + KNB-56N + KSC-30 + KRA-27M)	450-520 MHz	NX-320K2-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, UHF Standard Slim Package (NX-320K2 + KNB-55L + KSC-25 + KRA-27M)	450-520 MHz	NX-320K2-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, UHF Premium Package (NX-320K2 + KNB-57L + KSC-25 + KRA-27M)	450-520 MHz	NX-320K2-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, UHF Li-ion Value Package (NX-320K2 + KNB-55L + KSC-25L + KRA-27M)	450-520 MHz	NX-320K2-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 260 CH, 8 Characters Alphanumeric LCD, 4 PF Keys, UHF Hi-Cap Li-	450-520 MHz	NX-320K2-LKVP

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		ion Value Package (NX-32K2 + KNB-57L + KSC-25L + KRA-27M)		
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-870 MHz 3W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	806-870 MHz	NX-410K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	896-941 MHz 2.5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	896-941 MHz	NX-411K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-870 MHz 3W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, CSA Approved I.S.	806-870 MHz	NX-410-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	896-941 MHz 2.5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, CSA Approved I.S.	896-941 MHz	NX-411-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-870 MHz 3W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Li-ion Battery Package (NX-410K2 + KNB-33L + KSC-32 + KBH-11 + KRA-24M)	806-870 MHz	NX-410K2-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	896-941 MHz 2.5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Li-Ion Battery package (NX-411K2 + KNB-33L + KSC-32 + KBH-11 + KRA-38K)	896-941 MHz	NX-411K2-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-870 MHz 3W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad	806-870 MHz	NX-420K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-870 MHz 3W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad, Standard Slim Package (NX-420K3 + KNB-55L + KSC-25)	806-870 MHz	NX-420K3-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-870 MHz 3W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad, Premium package (NX-420K3 + KNB-57L + KSC-25)	806-870 MHz	NX-420K3-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-870 MHz 3W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad, Li-ion Value Package (NX-420K3 + KNB-55L + KSC-25L)	806-870 MHz	NX-420K3-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-870 MHz 3W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad, Hi-	806-870 MHz	NX-420K3-LKVP

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		Cap Li-Ion Value Package (NX-420K3 + KNB-57L + KSC-25L)		
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 512 CH / 128 Zone CONV-& LTR	136-174 MHz	TK-2180K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 512 CH / 128 Zone CONV-& LTR with DTMF keypad	136-174 MHz	TK-2180K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 512 CH / 128 Zone CONV-& LTR	450-520 MHz	TK-3180K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 512 CH / 128 Zone CONV-& LTR	400-470 MHz	TK-3180K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 512 CH / 128 Zone CONV-& LTR with DTMF Keypad	450-520 MHz	TK-3180K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 512 CH / 128 Zone CONV-& LTR with DTMF Keypad	400-470 MHz	TK-3180K4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 512 CH / 128 Zone CONV-& LTR VHF Li-Ion Battery Package (TK-2180K + KNB-33L + KSC-32 + KBH-11)	136-174 MHz	TK-2180K-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 512 CH / 128 Zone CONV-& LTR VHF NiMH Battery Package (TK-2180K + KNB-54N + KSC-32 + KBH-11)	136-174 MHz	TK-2180K-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 512 CH / 128 Zone CONV-& LTR UHF Li-Ion Battery Package (TK-3180K2 + KNB-33L + KSC-32 + KBH-11)	400-470 MHz	TK-3180K2-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 512 CH / 128 Zone CONV-& LTR UHF NiMH Battery Package (TK-3180K2 + KNB-54N + KSC-32 + KBH-11)	400-470 MHz	TK-3180K2-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 512 CH / 128 ZONE CONV-& LTR UHF Li-Ion Battery Package (TK-3180K + KNB-33L + KSC-32 + KBH-11)	450-520 MHz	TK-3180K-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 512 CH / 128 Zone CONV- & LTR UHF NiMH Battery Package (TK-3180K + KNB-54N + KSC-32 + KBH-11)	450-520 MHz	TK-3180K-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 512 CH / 128 Zone CONV-& LTR, Factory Mutual (FM) Approved	136-174 MHz	TK-2180-ISK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 512 CH / 128 Zone CONV-& LTR with DTMF keypad, Factory Mutual (FM) Approved	136-174 MHz	TK-2180-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 512 CH / 128 Zone CONV-& LTR, Factory Mutual (FM) Approved	450-520 MHz	TK-3180-ISK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 512 CH / 128 Zone CONV-& LTR, Factory Mutual (FM) Approved	400-470 MHz	TK-3180-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 512 CH / 128 Zone CONV-& LTR with DTMF Keypad, Factory Mutual (FM) Approved	450-520 MHz	TK-3180-ISK3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 512 CH / 128 Zone CONV-& LTR with DTMF Keypad, Factory Mutual (FM) Approved	400-470 MHz	TK-3180-ISK4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH / 128 Zone Conventional; 8 Character LCD, 4-key	450-490 MHz	TK-3173K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH / 128 Zone Conventional; 8 Character LCD, 4 + 12-key	450-490 MHz	TK-3173K4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH/128 Zone Conventional; 8 Character LCD, 4-key UHF Premium Package (TK-3173K + KNB-57L + KSC-25 + KRA-27M)	450-490 MHz	TK-3173-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH/128 Zone Conventional; 8 Character LCD, 4-key UHF Standard Slim Package (TK-3173K + KNB-55L + KSC-25 + KRA-27M)	450-490 MHz	TK-3173-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH/128 Zone Conventional; 8 Character LCD, 4-key UHF Basic Package (TK-3173K + KNB-56N + KSC-30 + KRA-27M)	450-490 MHz	TK-3173-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH/128 Zone Conventional; 8 Character LCD, 4-key UHF Li-ion Value Package (TK-3173K + KNB-55L + KSC-25L + KRA-27M)	450-490 MHz	TK-3173-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH/128 Zone Conventional; 8 Character LCD, 4-key UHF Hi-Cap Li-ion Value Package (TK-3173K + KNB-57L	450-490 MHz	TK-3173-LKVP

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		+ KSC-25L + KRA-27M)		
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 128 CH / 128 Zone Conventional; 8 Character LCD, 4-key	136-174 MHz	TK-2170K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 128 CH / 128 Zone Conventional; 8 Character LCD, 4 + 12-key	136-174 MHz	TK-2170K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH / 128 Zone Conventional; 8 Character LCD, 4-key	450-490 MHz	TK-3170K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-430 MHz 4W, 128 CH / 128 Zone Conventional; 8 Character LCD, 4-key	400-430 MHz	TK-3170K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH / 128 Zone Conventional; 8 Character LCD, 4 + 12-key	450-490 MHz	TK-3170K4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-430 MHz 4W, 128 CH / 128 Zone Conventional; 8 Character LCD, 4 + 12-key	400-430 MHz	TK-3170K6
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 128 CH /128 Zone Conventional; 8 Character LCD, 4-key VHF Standard Package (TK-2170K + KNB-56N + KSC-30 + KRA-26M)	136-174 MHz	TK-2170-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 128 CH /128 Zone Conventional; 8 Character LCD, 4-key VHF Standard Package (TK-2170K + KNB-55L + KSC-25 + KRA-26M)	136-174 MHz	TK-2170-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 128 CH / 128 Zone Conventional; 8 character LCD, 4-key VHF Premium Package (TK-2170K + KNB-57L + KSC-25 + KRA-26M)	136-174 MHz	TK-2170-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH/ 128 Zone Conventional; 8 Character LCD 4-key UHF Standard Package (TK-3170K + KNB-56N + KSC-30 + KRA-27M)	450-490 MHz	TK-3170-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH /128 Zone Conventional; 8 Character LCD, 4-key UHF Standard Package (TK-3170K + KNB-55L + KSC-25 + KRA-26M)	450-490 MHz	TK-3170-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH / 128 Zone Conventional ; 8 Character LCD 4-key UHF	450-490 MHz	TK-3170-LKP

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		Premium Package (TK-3170K + KNB-57L + KSC-25 + KRA-27M)		
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 128 CH /128 Zone Conventional; 8 Character LCD, 4-key VHF Li-ion Value Package (TK-2170K + KNB-55L + KSC-25L + KRA-26M)	136-174 MHz	TK-2170-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 128 CH /128 Zone Conventional; 8 Character LCD, 4-key VHF Hi-Cap Li-ion Value Package (TK-2170K + KNB-57L + KSC-25L + KRA-26M)	136-174 MHz	TK-2170-LKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH /128 Zone Conventional; 8 Character LCD, 4-key UHF Li-ion Value Package (TK-3170K + KNB-55L + KSC-25L+ KRA-26M)	450-490 MHz	TK-3170-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 128 CH /128 Zone Conventional; 8 Character LCD, 4-key UHF Hi-Cap Li-ion Value Package (TK-3170K + KNB-57L + KSC-25L + KRA-26M)	450-490 MHz	TK-3170-LKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, LTR-32 Systems, CONV-250 CH.	136-174 MHz	TK-2140
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, LTR-32 Systems, CONV-250 CH.	450-490 MHz	TK-3140K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, LTR-32 Systems, CONV-250 CH VHF Standard Package (TK-2140 + KNB-56N + KSC-30 + KRA-26M)	136-174 MHz	TK-2140-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, LTR-32 Systems, CONV-250 CH VHF Standard Package (TK-2140 + KNB-55L + KSC-25 + KRA-26M)	136-174 MHz	TK-2140-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, LTR-32 Systems, CONV-250 CH VHF Premium Package (TK-2140 + KNB-57L + KSC-25 + KRA-26M)	136-174 MHz	TK-2140K-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, LTR-32 Systems, CONV-250 CH UHF Standard Package (TK-3140K + KNB-56N+ KSC-30 + KRA-27M)	450-490 MHz	TK-3140-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, LTR-32 Systems, CONV-250 CH UHF Standard Package (TK-3140K + KNB-	450-490 MHz	TK-3140-SLKP

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		55L + KSC-25 + KRA-27M)		
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, LTR-32 Systems, CONV-250 CH UHF Premium Package (TK-3140K + KNB-57L + KSC-25 + KRA-27M)	450-490 MHz	TK-3140K-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, LTR-32 Systems, CONV-250 CH VHF Li-ion Value Package (TK-2140 + KNB-55L + KSC-25L + KRA-26M)	136-174 MHz	TK-2140-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, LTR-32 Systems, CONV-250 CH VHF Hi-Cap Li-ion Value Package (TK-2140 + KNB-57L + KSC-25L + KRA-26M)	136-174 MHz	TK-2140-LKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, LTR-32 Systems, CONV-250 CH UHF Li-ion Value Package (TK-3140K + KNB-55L + KSC-25L + KRA-27M)	450-490 MHz	TK-3140-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, LTR-32 Systems, CONV-250 CH UHF Hi-Cap Li-ion Value Package (TK-3140K + KNB-57L + KSC-25L + KRA-27M)	450-490 MHz	TK-3140-LKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 16 CH Conventional	136-174 MHz	TK-2360K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 16 CH Conventional	450-520 MHz	TK-3360K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz 5W, 16 CH Conventional	400-470 MHz	TK-3360K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 16 CH Conventional, VHF Basic Package (TK-2360K + KNB-56N + KSC-30 + KRA-26M)	136-174 MHz	TK-2360-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 16 CH Conventional, VHF Standard Slim Package (TK-2360K + KNB-55L + KSC-25 + KRA-26M)	136-174 MHz	TK-2360-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 16 CH Conventional, VHF Premium Package (TK-2360K + KNB-57L + KSC-25 + KRA-26M)	136-174 MHz	TK-2360-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 16 CH Conventional, UHF Basic Package (TK-3360K + KNB-56N + KSC-30 + KRA-27M)	450-520 MHz	TK-3360-NKP

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 16 CH Conventional, UHF Standard Slim Package (TK-3360K + KNB-55L + KSC-25 + KRA-27M)	450-520 MHz	TK-3360-SLKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 16 CH Conventional, UHF Premium Package (TK-3360K + KNB-57L + KSC-25 + KRA-27M)	450-520 MHz	TK-3360-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 16 CH Conventional, VHF Li-ion Value Package (TK-2360K + KNB-55L + KSC-25L + KRA-26M)	136-174 MHz	TK-2360-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 16 CH Conventional, VHF Hi-Cap Li-ion Value Package (TK-2360K + KNB-57L + KSC-25L + KRA-26M)	136-174 MHz	TK-2360-LKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 16 CH Conventional, UHF Li-ion Value Package (TK-3360K + KNB-55L + KSC-25L + KRA-27M)	450-520 MHz	TK-3360-SLKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz 5W, 16 CH Conventional, UHF Hi-Cap Li-ion Value Package (TK-3360K + KNB-57L + KSC-25L + KRA-27M)	450-520 MHz	TK-3360-LKVP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz, 5W, 16 CH Conventional SGS US I.S. Approved	136-174 MHz	TK-2360-ISK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz, 5W, 16 CH Conventional SGS US I.S. Approved	450-520 MHz	TK-3360-ISK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz, 5W, 16 CH Conventional, SGS US I.S. Approved	400-470 MHz	TK-3360-ISKK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-825, 851-870 MHz 2.5W, LTR-32 Systems, CONV-250 CH.	806-825 MHz	TK-480K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	806-825, 851-870 MHz 2.5W, LTR-32 Systems, CONV-250 CH., with DTMF keypad	806-825 MHz	TK-480K4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	896-902, 935-941 MHz 2.5W, LTR-32 Systems, CONV-250 CH.	896-902 MHz	TK-481K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	896-902, 935-941 MHz 2.5W, LTR-32 Systems, CONV-250 CH. With DTMF keypad	896-902 MHz	TK-481K4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	700/800 MHz 3W, 1024 CH, Standard Model	700/800 MHz	TK-5410K2

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	700/800 MHz 3W, 1024 CH, 12 Keypad Model	700/800 MHz	TK-5410K3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	NiMH Battery Package (TK-5410K2 + KNB-54N + KSC-32 + KBH-11+KRA-32K)	700/800 MHz	TK-5410K2-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Li-Polymer Battery Package (TK-5410K2 + KNB-43L + KSC-32 + KBH-11+KRA-32K)	700/800 MHz	TK-5410K2-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	NiMH Battery Package (TK-5410K3 + KNB-54N + KSC-32 + KBH-11+KRA-32K)	700/800 MHz	TK-5410K3-NKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	Li-Polymer Battery Package (TK-5410K3 + KNB-43L + KSC-32 + KBH-11+KRA-32K)	700/800 MHz	TK-5410K3-LKP
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	700/800 MHz 3W, 1024 CH, Standard Model, Factory Mutual (FM) Approved	700/800 MHz	TK-5410-ISK2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	700/800 MHz 3W, 1024 CH, 12 Keypad Model, Factory Mutual (FM) Approved	700/800 MHz	TK-5410-ISK3
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 160 Ch. w/dual priority scan	136-174 MHz	TK-290K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz 5W, 160 Ch. w/dual priority scan, w/DTMF keypad	136-174 MHz	TK-290K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 160 Ch. w/dual priority scan	450-490 MHz	TK-390K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz 4W, 160 Ch. w/dual priority scan, w/DTMF keypad	450-490 MHz	TK-390K4
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	29.7 – 37.0 MHz 6W, 16 Channels	29.7-37.0 MHz	TK-190K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	35.0 – 50.0 MHz 6W, 16 Channels	35.0-50.0 MHz	TK-190K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz VHF 5W, 128 Ch.	136-174 MHz	TK-2312K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz UHF 5W, 128 Ch.	450-520 MHz	TK-3312K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	400-470 MHz UHF 5W, 128 Ch.	400-470 MHz	TK-3312K2

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz VHF 5W, 16 Ch.	136-174 MHz	TK-2402VK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-490 MHz VHF 4W, 16 Ch.	450-490 MHz	TK-3402UK
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz VHF 2W, 4 Ch.	136-174 MHz	TK-2400K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	136-174 MHz VHF 2W, 16 Ch.	136-174 MHz	TK-2400K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz UHF 2W, 4 Ch.	450-520 MHz	TK-3400K
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	450-520 MHz UHF 2W, 16 Ch.	450-520 MHz	TK-3400K2
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	151-159 MHz VHF 2W, 4 Ch.	151-159 MHz	TK-2400V4P
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	151-159 MHz VHF 2W, 16 Ch.	151-159 MHz	TK-2400V16P
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	451-470 MHz UHF 2W, 4 Ch.	451-470 MHz	TK-3400U4P
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	451-470 MHz UHF 2W, 16 Ch.	451-470 MHz	TK-3400U16P
3.0 - PORTABLE RADIOS	Kenwood USA Corporation	464-467 MHz UHF 1.5W or 500 mW, 6 Ch. Portable Transceiver	464-467 MHz	TK-3230K
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Basic Model	136-174 MHz	TK-5210GK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Standard Model	134-174 MHz	TK-5210GK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, 12 Keypad Model	136-174 MHz	TK-5210GK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 128 CH, Standard Model	136-174 MHz	TK-5210GK7
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Basic Model	450-520 MHz	TK-5310GK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Standard Model	450-520 MHz	TK-5310GK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, 12 Keypad Model	450-520 MHz	TK-5310GK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, Basic Model	380-470 MHz	TK-5310GK4
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, Standard Model	380-470 MHz	TK-5310GK5
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, 12 Keypad Model	380-470 MHz	TK-5310GK6
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 128 CH, Standard Model	380-470 MHz	TK-5310GK7
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Standard Model (w/Yellow Housing)	136-174 MHz	TK-5210GK2-YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Standard Model (w/Orange Housing)	136-174 MHz	TK-5210GK2-OH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Standard Model (w/Yellow Housing)	450-520 MHz	TK-5310GK2-YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Standard Model (w/Orange Housing)	450-520 MHz	TK-5310GK2-OH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, Standard Model (w/Yellow Housing)	380-470 MHz	TK-5310GK5-YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, Standard Model (w/Orange Housing)	380-470 MHz	TK-5310GK5-OH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Basic Model, Factory Mutual (FM) Approved	136-174 MHz	TK-5210-ISGK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Standard Model, Factory Mutual (FM) Approved	136-174 MHz	TK-5210-ISGK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Standard Model, Factory Mutual (FM) Approved, (w/Yellow Housing)	136-174 MHz	TK-5210-ISGK2-YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Standard Model, Factory Mutual (FM) Approved, (w/Orange Housing)	136-174 MHz	TK-5210-ISGK2-OH

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, 12 Keypad Model, Factory Mutual (FM) Approved	136-174 MHz	TK-5210-ISGK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 128 CH, Standard Model, Factory Mutual (FM) Approved	136-174 MHz	TK-5210-ISGK7
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Basic Model, Factory Mutual (FM) Approved	450-520 MHz	TK-5310-ISGK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Standard Model, Factory Mutual (FM) Approved	450-520 MHz	TK-5310-ISGK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Standard Model, Factory Mutual (FM) Approved, (w/Yellow Housing)	450-520 MHz	TK-5310-ISGK2-YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Standard Model, Factory Mutual (FM) Approved, (w/Orange Housing)	450-520 MHz	TK-5310-ISGK2-OH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, 12 Keypad Model, Factory Mutual (FM) Approved	450-520 MHz	TK-5310-ISGK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, Basic Model, Factory Mutual (FM) Approved	380-470 MHz	TK-5310-ISGK4
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, Standard Model, Factory Mutual (FM) Approved	380-470 MHz	TK-5310-ISGK5
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, Standard Model, Factory Mutual (FM) Approved, (w/Yellow Housing)	380-470 MHz	TK-5310-ISGK5-YK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, Standard Model, Factory Mutual (FM) Approved, (w/Orange Housing)	380-470 MHz	TK-5310-ISGK5-OH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 1024 CH, 12 Keypad Model, Factory Mutual (FM) Approved	380-470 MHz	TK-5310-ISGK6
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 128 CH, Standard Model, Factory Mutual (FM) Approved	380-470 MHz	TK-5310ISGK7
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 512 CH, 12 Keypad Model	136-174 MHz	TK-5210-ISGK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 64 CH, Standard Model	136-174 MHz	TK-5210-ISGK7

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SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 512 CH, Basic Model	450-520 MHz	TK-5310-ISGK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 512 CH, Standard Model	450-520 MHz	TK-5310-ISGK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 512 CH, 12 Keypad Model	450-520 MHz	TK-5310-ISGK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 512 CH, Basic Model	380-470 MHz	TK-5310-ISGK4
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 512 CH, Standard Model	380-470 MHz	TK-5310-ISGK5
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 512 CH, 12 Keypad Model	380-470 MHz	TK-5310-ISGK6
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 380-470 MHz 4W, 64 CH, Standard Model	380-470 MHz	TK-5310-ISGK7
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Standard Model (TK-5210GK2 + KNB-54N + KSC-32 + KBH-11)	136-174 MHz	TK-5210GK2-NKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 5W, 1024 CH, Standard Model (TK-5210GK2 + KNB-43L + KSC-32 + KBH-11)	136-174 MHz	TK-5210GK2-LKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Standard Model (TK-5310GK2 + KNB-54N + KSC-32 + KBH-11)	450-520 MHz	TK-5310GK2-NKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 4W, 1024 CH, Standard Model (TK-5310GK2 + KNB-43L + KSC-32 + KBH-11)	450-520 MHz	TK-5310GK2-LKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	136-174 MHz	TK-5220K
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	136-174 MHz	TK-5220K2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	450-520 MHz	TK-5320K
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	400-470 MHz	TK-5320K2

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	450-520 MHz	TK-5320K3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	400-470 MHz	TK-5320K4
6.0 - TRUNKED RADIO	Kenwood USA Corporation	380-400 MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	380-400 MHz	TK-5320K5
6.0 - TRUNKED RADIO	Kenwood USA Corporation	380-400 MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	380-400 MHz	TK-5320K6
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion)	136-174 MHz	TK-5220-WK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, IP67 (Immersion)	136-174 MHz	TK-5220-WK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion)	450-520 MHz	TK-5320-WK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion)	400-470 MHz	TK-5320-WK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, IP67 (Immersion)	450-520 MHz	TK-5320-WK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, IP67 (Immersion)	400-470 MHz	TK-5320-WK4
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion), Custom Color Housing (Yellow)	136-174 MHz	TK-5220-WK-YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion), Custom Color Housing (Orange)	136-174 MHz	TK-5220-WK-OH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion), Custom Color Housing (Yellow)	450-520 MHz	TK-5320-WK-YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion), Custom Color Housing (Orange)	450-520 MHz	TK-5320-WK-OH

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion), Custom Color Housing (Yellow)	400-470 MHz	TK-5320-WK2-YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, IP67 (Immersion), Custom Color Housing (Orange)	400-470 MHz	TK-5320-WK2-OH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved	136-174 MHz	TK-5220-ISK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved	136-174 MHz	TK-5220-ISK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved	450-520 MHz	TK-5320-ISK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved	400-470 MHz	TK-5320-ISK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved	450-520 MHz	TK-5320-ISK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved	400-470 MHz	TK-5320-ISK4
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion)	136-174 MHz	TK-5220-ISWK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved, IP67 (Immersion)	136-174 MHz	TK-5220-ISWK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion)	450-520 MHz	TK-5320-ISWK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion)	400-470 MHz	TK-5320-ISWK2

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved, IP67 (Immersion)	450-520 MHz	TK-5320-ISWK3
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved	400-470 MHz	TK-5320-ISWK4
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Yellow)	136-174 MHz	TK-5220-ISWKYH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Orange)	136-174 MHz	TK-5220-ISWKOH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Yellow)	450-520 MHz	TK-5320-ISWKYH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Orange)	450-520 MHz	TK-5320-ISWKOH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Yellow)	400-470 MHz	TK-5320-ISWK2YH
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad, Factory Mutual (FM) Approved, IP67 (Immersion), Custom Color Housing (Orange)	400-470 MHz	TK-5320-ISWK20H
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, VHF Li-ion Battery Package (TK-5220K+KNB-47L+KSC-32+KBH-11)	136-174 MHz	TK-5220K-LKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, VHF Hi Cap Li-ion Package (TK-5220K+KNB-48L+KSC-32+KBH-11)	136-174 MHz	TK-5220K-LHKP

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, UHF Li-Ion Battery Package (TK-5320K+KNB-47L+KSC-32+KBH-11)	450-520 MHz	TK-5320K-LKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, UHF Hi Cap Li-Ion Battery Package (TK-5320K+KNB-48L+KSC-32+KBH-11)	450-520 MHz	TK-5320K-LHKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, UHF Li-Ion Battery Package (TK-5320K+KNB-47L+KSC-32+KBH-11)	400-470 MHz	TK-5320K2-LKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, UHF Hi Cap Li-Ion Battery Package (TK-5320K+KNB-48L+KSC-32+KBH-11)	400-470 MHz	TK-5320K2-LHKP
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 10-50W 50 Zones/512 Channels (R.F. DECK ONLY)	136-174MHz	TK-5710BGK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174MHz 50-110W 50 Zones/512 Channels (R.F. DECK ONLY)	136-174MHz	TK-5710HBGK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 5-45W 100 Zones/1024 Channels (R.F. DECK ONLY)	450-520 MHz	TK-5810BGK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 400-470 MHz 5-45W 50 Zones/512 Channels (R.F. DECK ONLY)	400-470 MHz	TK-5810BGK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 50-100W 50 Zones/512 Channels (R.F. DECK ONLY)	450-520 MHz	TK-5810HBGK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 400-470 MHz 50-100W 50 Zones/512 Channels (R.F. DECK ONLY)	400-470 MHz	TK-5810HBGK2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 700/800 MHz 2-30/35W 100 Zones/1024 Channels (R.F. DECK ONLY)	700/800 MHz	TK-5910BGK
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 136-174 MHz 50W, 512 CH/128 Zone	136-174 MHz	TK-5720K
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 450-520 MHz 45W, 512 CH/128 Zone	450-520 MHz	TK-5820K
6.0 - TRUNKED RADIO	Kenwood USA Corporation	P-25 400-470 MHz 45W, 512 CH/128 Zone	400-470 MHz	TK-5820K2
6.0 - TRUNKED RADIO	Kenwood USA Corporation	800 MHz, 15W LTR-32 Systems, CONV-250 CH.	800 MHz	TK-980

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
6.0 - TRUNKED RADIO	Kenwood USA Corporation	900 MHz, 15W LTR-32 Systems, CONV-250 CH.	900 MHz	TK-981
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF helical antenna 148-162 MHz	148-162 MHz	KRA-14M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF helical antenna 162-174 MHz	162-174 MHz	KRA-14M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF helical antenna 136-150 MHz	136-150 MHz	KRA-14M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF whip antenna 450-490 MHz	450-490 MHz	KRA-15AM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF whip antenna 470-512 MHz	470-512 MHz	KRA-15AM2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF whip antenna 403-430 MHz	403-430 MHz	KRA-15AM3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF stubby antenna 148-162 MHz	148-162 MHz	KRA-16M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF stubby antenna 162-174 MHz	162-174 MHz	KRA-16M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF stubby antenna 136-150 MHz	136-150 MHz	KRA-16M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF stubby antenna 450-490 MHz	450-490 MHz	KRA-17M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF stubby antenna 470-512 MHz	470-512 MHz	KRA-17M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF stubby antenna 403-430 MHz	403-430 MHz	KRA-17M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Tunable VHF Low Band helical antenna 29.7-50MHz. Note: Antenna band width is 1 MHz Caution: the TK-190 antenna must be cut per the antennas cutting chart and instructions. Failure to do so will result in a poorly matched antenna, poor performance and most probably excessive and damage in the transmitters final power	29.7-50 MHz	KRA-21

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		amplifier circuit.		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF low-profile helical antenna 148-162 MHz	148-162 MHz	KRA-22M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF low-profile helical antenna 162-174 MHz	162-174 MHz	KRA-22M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF Low-profile helical antenna 136-150 MHz	136-150 MHz	KRA-22M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF low-profile helical antenna 450-490 MHz	450-490 MHz	KRA-23M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF low-profile helical antenna 470-512 MHz	470-512 MHz	KRA-23M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF low-profile helical antenna 403-430 MHz	403-430 MHz	KRA-23M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	800 MHz Whip Antenna 1/4 wave end feed	800 MHz	KRA-24M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	High gain VHF helically loaded whip antenna 148-162 MHz	148-162 MHz	KRA-25
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF helical antenna 146-162 MHz	146-162 MHz	KRA-26M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF helical antenna 162-174 MHz	162-174 MHz	KRA-26M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF helical antenna 136-150 MHz	136-150 MHz	KRA-26M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF whip antenna 440-490 MHz	440-490 MHz	KRA-27M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF whip antenna 470-520 MHz	470-520 MHz	KRA-27M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF whip antenna 400-450 MHz	400-450 MHz	KRA-27M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Broad-band VHF helically loaded whip antenna 140-170 MHz	140-170 MHz	KRA-28
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Broad Band UHF Whip Antenna 380-430 MHz	380-430 MHz	KRA-29

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	700/800 MHz Whip Antenna	700/800 MHz	KRA-32K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	700/800 MHz Stubby Antenna	700/800 MHz	KRA-36
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	800/900 MHz Whip Antenna	800/900 MHz	KRA-38K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	900 MHz Stubby Antenna	900 MHz	KRA-39
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF Stubby Antenna 148-162 MHz	148-162 MHz	KRA-41M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF stubby antenna 162-174 MHz	162-174 MHz	KRA-41M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	VHF stubby antenna 136-150 MHz	136-150 MHz	KRA-41M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF Stubby Antenna 440-490 MHz	440-490 MHz	KRA-42M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	UHF Stubby antenna 470-520 MHz	470-520 MHz	KRA-42M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Replacement Part: 800 MHz Whip Antenna for TK-480	800 MHz	T90-0636-25
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Replacement Part: 900 MHz Whip Antenna for TK-481	900 MHz	T90-0640-25
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included		KBP-1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AA Alkaline Refillable Battery Pack (12 AA; 9V) cells not included		KBP-4
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included		KBP-5
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included (Color: Orange)		KBP-6
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included <u>Note:</u> the color of the case is orange		KBP-7

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	600 mAh, Ni-Cd battery		KNB-14
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	1600 mAh, Ni-MH battery - requires KSC-24 charger		KNB-20N
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2100 mAh, Ni-MH battery - requires KSC-24 charger		KNB-22N
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2100 mAh, Ni-MH battery - requires KSC-24 charger		KNB-52N
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	1500 mAh, NiMH battery - requires KSC-31K/E or KSC-43K charger		KNB-29N
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2500 mAh, Ni-MH battery - requires KSC-32/326K charger		KNB-54N
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2000 mAh, Li-ion battery - requires KSC-32/326K charger		KNB-33L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	1950 mAh, Li-ion battery - requires KSC-25/256K charger [Intrinsically Safe Option]		KNB-40LCV
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2500 mAh, Ni-MH battery - requires KSC-32/326K charger [Intrinsically Safe Option]		KNB-41NC-FM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2500 mAh, Ni-MH battery - requires KSC-32/326K charger [CSA Intrinsically Safe Option]		KNB-41NC-CSA-US
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	3300 mAh, Li-Polymer battery - requires KSC-32/326K charger		KNB-43L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2000 mAh, Li-ion battery - requires KSC-35K/E charger		KNB-45L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Li-Ion battery (Same as supplied with TK-3230)		KNB-46L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	1950 mAh, Li-ion battery - requires KSC-32/326K charger		KNB-47L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2550 mAh, Li-ion battery - requires KSC-32/326K charger		KNB-48L

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	4500 mAh, Primary Lithium battery Note: Non-Rechargeable (please recycle all batteries properly) 10 year Shelf Life (approx. 1% charge degradation per year when properly stored: +50 °F to +86 °F @ less than 70% humidity)		KNB-49PL
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2500 mAh, Ni-MH battery - requires KSC-32/326K charger		KNB-54N
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	1480 mAh, Li-ion battery - requires KSC-25/256K charger		KNB-55L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2000 mAh, Li-ion battery - requires KSC-25/256K charger		KNB-57L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	1400 mAh, Ni-MH battery		KNB-56N
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2000 mAh, Ni-MH battery - requires KSC-32/326K charger [Intrinsically Safe Option]		KNB-50NC
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2100 mAh, Ni-MH battery - requires KSC-24 charger [Intrinsically Safe Approved Accessory]		KNB-51NC
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	1400 mAh, Ni-MH battery		KNB-52N
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2550 mAh, Li-ion battery - requires KSC-35K/SK charger		KNB-69L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110 volt Regular rate single unit desk charger for KNB-14/15		KSC-15
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110 volt Regular rate single unit desk charger for KNB-16/17A/17B		KSC-19
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110 volt Rapid rate single unit charger for KNB-14/15/16/17A/17B/20N/21N/22N/22NC		KSC-24
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110 volt Rapid rate single unit charger for KNB-25A/26N/35L/40LC		KSC-25
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	100-240 volt rapid rate single unit charger for KNB-35L/40LC(V)/55L/57L Li-ion Battery		KSC-25L

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Rapid rate 6-Unit charger for KNB-25A/26N/35L/40LC		KSC-256K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110 volt Regular rate single unit charger for KNB-25A/26N		KSC-30
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110 volt Fast rate single unit charger for KNB-29N		KSC-31K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Rapid rate single unit charger for KNB-31A/32N/33L/41NC/43L/47L/48L/50NC Note: Includes 110/220V auto-switching AC adapter with U.S.-style line cord plug; requires plug adapter for 220V Euro-style outlets (not supplied).		KSC-32
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Rapid rate 6-unit charger for KNB-31A/32N/33L/41NC/43L/47L/48L/50NC		KSC-326K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110 volt Fast rate single unit charger for KNB-45L		KSC-35K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Li-Ion Rapid rate charger (Same as supplied with TK-3230)		KSC-37
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110-220 VOLT Fast rate single unit charger for KNB-29N/45L/69L		KSC-43K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Six Unit Charger Adapter for the KSC-16/20/24/25 chargers (chargers not included)		KMB-16
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Six Unit Charger Adapter for the KSC-16/20/24/25/32 chargers (chargers not included)		KMB-23
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Six Unit Charger Adapter for the KSC-28/37 chargers (chargers not included) Note: The six KSC-xx AC wall Adapters are NOT used in the KMB-27 installation A supplied in-line AC-DC switching power supply with six DC plugs supply the six installed KSC-xx charger bases. This unit is lower profile and less weight than similar Kenwood six unit charger adapters.		KMB-27

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		Dimensions: 10.6(W) x 2.4(H) x 9.5(D) inches, Weight: approx. 10 lbs. (loaded with chargers/radios)		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Six Unit Charger Adapter for the KSC- 23BK/28/35K chargers (chargers not included) Note: The six KSC-xx AC wall Adapters are NOT used in the KMB-28 installation A supplied in-line AC-DC switching power supply with six DC plugs supply the six installed KSC-xx charger bases. This unit is lower profile and less weight than similar Kenwood six unit charger adapters. Dimensions: 10.6(W) x 2.4(H) x 9.5(D) inches, Weight: approx. 10 lbs. (loaded with chargers/radios)		KMB-28
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Wall Mount Bracket for KSC-326K/256K		KMB-30M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC- mobile bracket & cigarette lighter cable DC adapter)		KVC-15
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Vehicular D.C. Charger for 180/5210/5310 Portables with NiCd or NiMH Battery		KVC-18
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Vehicular D.C. Charger for 180/5**0/NX Portables with Li-ion or Li Polymer Battery		KVC-20L
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	110~220 volt Fast rate DC vehicular charger adapter for KSC-35SK charger & KNB-45L Li-ion battery (charger not included)		KVC-22
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Rapid rate DC vehicular charger adapter for the KSC-16/18/20/24/25 chargers (chargers not included)		KVC-4
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Spring action belt clip		KBH-10
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Spring action belt clip (2.5")		KBH-11

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Spring action belt clip		KBH-12
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Spring action belt clip (Same as supplied with TK-3230)		KBH-14M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Leather swivel belt loop with portable D-Ring attachment		KBH-13DS
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Leather swivel belt loop with portable D-Ring attachment		KBH-8DS
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Leather case for TK-272G/372G		KLH-112
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Soft leather case for TK-2140/3140		KLH-114
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy-Duty Leather Case w/Swivel Belt Loop for TK-2140/3140		KLH-116
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-2180/3180 (Non DTMF keypad models)		KLH-122
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-2180/3180 (DTMF keypad models)		KLH-123
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-2180/3180 (Non DTMF keypad models)		KLH-124
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-2180/3180 (DTMF keypad models)		KLH-125
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Nylon case for TK-*200/*202/*302 Series		KLH-126
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-5210/5310 Basic Models		KLH-133K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-5210/5310 Standard Models		KLH-133K2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-5210/5310 12 Keypad Models		KLH-133K3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-5210/5310 Basic Models		KLH-134K

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-5210/5310 Standard Models		KLH-134K2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-5210/5310 12 Keypad Models		KLH-134K3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case (KLH-75B/76B/78B/79B//92/122/123/133/148)		KLH-137ST
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy-Duty Leather Case w/Swivel Belt Loop for 160/170/173/360 (Non DTMF keypad)		KLH-138
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy-Duty Leather Case w/Swivel Belt Loop for 170/173 (w/ DTMF keypad)		KLH-139
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Extra Heavy-Duty Cordura Nylon carrying case for TK-190/290/390 (all battery packs; no keypad access)		KLH-141
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for NX-200/300 (Non DTMF keypad models)		KLH-148K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for NX-200/300 (DTMF keypad models)		KLH-148K2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Nylon carrying case for NX-200/300 (Non DTMF keypad models)		KLH-149K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Nylon carrying case for NX-200/300 (DTMF keypad models)		KLH-149K2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Nylon case for TK-3230 (Black)		KLH-150
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for NX-210K2/410K2/411K2		KLH-154K2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy-Duty Leather Carrying Case for TK-2312K/3312		KLH-178K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K/320K/K4 (Non Display)		KLH-179K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K2/320K2/K5 (Display)		KLH-179K2

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K3/320K3/K6/420K3 (Full Keypad)		KLH-179K3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Nylon Carrying Case for NX-220K/320K/K4 (Non Display)		KLH-180K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Nylon Carrying Case for NX-220K2/320K2/K5 (Display)		KLH-180K2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Nylon Carrying Case for NX-220K3/320K3/K6/420K3 (Full Keypad)		KLH-180K3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Nylon Carrying Case for TK-*200/*202/*300/*302/*400/*402 Series		KLH-187
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Bungi-cord for KLH-58/60/71/75/76		KLH-58BC
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Leather swivel belt loop / detachable swivel D-Ring back		KLH-6SW
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-480/481 (Non DTMF keypad models)		KLH-75B
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-480/481 (DTMF keypad models)		KLH-76B
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-190/290/390/5400 (Non DTMF keypad models)		KLH-78B
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-290/390/5400 (DTMF keypad models)		KLH-79B
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-480/481 (DTMF keypad models)		KLH-85
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-480/481 (Non DTMF keypad models)		KLH-86
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-190/290/390/5400 (Non DTMF keypad models)		KLH-88
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Cordura Nylon carrying case for TK-290/390/5400 (DTMF Keypad models)		KLH-89
13.0 - PARTS &	Kenwood USA	Heavy duty leather carrying case		KLH-90

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
ACCESSORIES	Corporation	for TK-290/390/5400 (DTMF keypad models w/ KBP-4)		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Heavy duty leather carrying case for TK-480/481 (DTMF keypad models w/ KBP-4)		KLH-92
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Water resistant bag		KWR-1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2.5mm Audio Accessory Adapter for KEP-3/4 [Intrinsically Safe Approved Accessory]		KCT-30
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)[Intrinsically Safe Approved Accessory]		KCT-51
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	3.5mm earphone kit for KMC-25/26/41M/42WM Speaker Mics [Intrinsically Safe Approved Accessory]		KEP-1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2.5mm earphone kit for KMC-17/45 Speaker Mic [Intrinsically Safe Approved Accessory]		KEP-2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	30" Earphone kit w/ 2.5mm plug for KCT-30 [Intrinsically Safe Approved Accessory] [MSHA Approved Accessory]		KEP-3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	48" Earphone kit w/ 2.5mm plug for KCT-30 [Intrinsically Safe Approved Accessory]		KEP-4
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approved Accessory]		KHS-10-BH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approval Accessory]		KHS-10-OH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2-wire palm mic w/earphone, universal connector (Beige) [Intrinsically Safe Approved Accessory]		KHS-11BE
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2-wire palm mic w/earphone, universal connector (Black) [Intrinsically Safe Approved Accessory]		KHS-11BL
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	3-wire mini lapel mic w/earphone, universal connector (Beige) [Intrinsically Safe Approved Accessory]		KHS-12BE

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	3-wire mini lapel mic w/earphone, universal connector (Black) [Intrinsically Safe Approved Accessory]		KHS-12BL
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Lt. Wt. Single muff headset w/boom mic & In-line PTT [Intrinsically Safe Approved Accessory]		KHS-14
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approved Accessory] [MSHA Approved Accessory]		KHS-15-BH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approved Accessory] [MSHA Approved Accessory]		KHS-15-OH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	2-Wire Cell-style Earbud Clip/PTT Palm Mic (medium duty)		KHS-23
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Headset w/ D-Ring Ear Hanger w/ PTT & Boom Mic		KHS-25
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Clip Mic w/earphone		KHS-26
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	D-Ring Ear Hanger w/PTT & Mic		KHS-27
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	C-Ring Ear Hanger w/PTT & Mic		KHS-31
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Single muff headset w/boom mic [Intrinsically Safe Approval Accessory]		KHS-7
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Lt. Wt Single muff headset w/boom mic & in-line PTT [Intrinsically Safe Approval Accessory]		KHS-7A
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Two-Wire palm mic w/earphone (black)		KHS-8BL
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Three-Wire lapel mic w/earphone (black)		KHS-9BL
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, IP54/55 Speaker microphone (Built-in 2.5mm miniature earphone jack)		KMC-45

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Compact speaker microphone [Intrinsically Safe Approval Accessory]		KMC-21
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, Noise canceling Speaker mic [Intrinsically Safe Approved Accessory]		KMC-25
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, Noise canceling Speaker mic (TK-190 only) [Intrinsically Safe Approved Accessory]		KMC-25A
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, Noise canceling Speaker mic w/Antenna Connector (ant. not incl.) [Intrinsically Safe Approved Accessory] [MSHA Approved Accessory]		KMC-26
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	GPS Speaker Microphone [Intrinsically Safe Approved Accessory] Note: FM Intrinsically Safe Approved except for Group C gases		KMC-38GPS
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, Speaker Mic. with Antenna Connector [Intrinsically Safe Approved Accessory] Note: 5/16" Coax cable hex wrench included (antenna is not included)		KMC-40
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, IP54/55 Noise-canceling Speaker Mic [Intrinsically Safe Approved Accessory]		KMC-41M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic [Intrinsically Safe Approved Accessory] [MSHA Approved Accessory]		KMC-42WM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	GPS Speaker Microphone [Intrinsically Safe Approved Accessory] *CSA Intrinsically Safe Approved except for Group C gases		KMC-47GPS
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	GPS Speaker Microphone		KMC-48GPS

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, IP54/55 DSP Digital Noise-canceling Speaker Mic [see note 1] [Intrinsically Safe Approved Accessory] *CSA Intrinsically Safe Approved except for Group C gases		KMC-51M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC, IP54/55 DSP Digital Noise-canceling Speaker Mic [see note 1] <u>Note:</u> Radio does not have an IP67 Immersion option; meets MIL STD810 rain standards [Intrinsically Safe Approved Accessory] *CSA Intrinsically Safe Approved except for Group C gases [note 1]: To adjust microphone settings different from factory default, download KPG-147NC configuration software and special configuration firmware from kenwood Tools (no charge).		KMC-52W
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	External Vibration Unit [Intrinsically Safe Approved Accessory] Note: Audio accessories cannot be used when this option installed.		KCT-48VU
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Man-Down Internal Tilt Switch (Non-Mercury Ball Switch Type) [Intrinsically Safe Approved Accessory] - Must be Kenwood installed for I.S. Order L-XXXX for CIM-1000, K-20, K-26 & L-XXXX for P25/NXDN®/FleetSync® operations		KCT-57MS
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Stationary & Motion Detection Must order L-1700 to activate this feature.		KWD-MS10
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AES FIPS140-2 & DES Encryption Module for TK-5210/5710/5310/5810 (except K7 Portable) [Intrinsically Safe Approved Accessory] - Order L-1236 if installation is required. KWD-AE20K requires: a Motorola KVL3000 Plus key loader device. KWD-AE20K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)		KWD-AE20K

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		- See IMPORTANT NOTES -		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>AES & DES Encryption Module for TK-5210/5710/5310/5810 (except K7 Portable) Order L-1237 if installation is required. Note: Requires KPG-113AE software key loader or Motorola KVL3000 Plus key loader device. KWD-AE21K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) - See IMPORTANT NOTES -</p>		KWD-AE21K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>DES Encryption Module for TK-5210/5710/5310/5810 [Intrinsically Safe Approved Accessory] - Order L-1559 if installation is required. KWD-DE20K requires: a Motorola KVL3000 or KVL3000 Plus key loader device. KWD-DE20K is a U.S. DOC/BIS Export Controlled Item (ECCN 5A992A) - See IMPORTANT NOTES - Other Option Board Installation: CIM-1000K-26 ANI, VGS-1 & aftermarket ANI/encryption boards cannot be installed with a KWD-DE20K or KWD-AE20K (portable option port are space limitation)</p>		KWD-DE20K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>DES Encryption Module for TK-5210/5710/5310/5810 Order L-1560 if installation is required Note: Requires KPG-114DE or KPG-113AE software key loader or Motorola KVL3000 Plus key loader device. KWD-DE21K is a U.S. DOC/BIS Export Controlled Item (ECCN 5A992A) - See IMPORTANT NOTES -</p>		KWD-DE21K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>Voice Guide and Storage Unit [Intrinsically Safe Approved Accessory]</p>		VGS-1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>Immersion Option Kit Must Order L-987 Note: Initial Installation Kenwood Long Beach Tuning Dept. only. To maintain immersion</p>		KWD-IM10

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		certification, re-certification is required every 2 years available at Kenwood Authorized Service Centers only. Call an ASC for return procedure (\$315.00 List Price)		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	TK-5400 DES-OFB Multi-key Encryption Option; 16 keys Note: Must order <u>L-995</u> U.S. DOC/BIS Export Controlled Item (ECCN 5A992A) - See IMPORTANT NOTES -		KWD-DE10
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	P25 Flash upgrade; NX-200/300/700/800, factory only		KWD-P25C
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MPT Trunking Field Upgrade Kit for NX series radio Must order L-1729 Note: Refer to NX Series MPT Price Pages. Not compatible with any other firmware options. Radio does not retain LTR trunking features once the MPT option is installed.		KWD-NX10MPT
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MPT Trunking Field Upgrade Kit for 180-Series Must order <u>L-1619</u> Note: Refer to 180-Series MPT Price Pages and 180-Series MPT In-Depth Technical Manuals for feature details (available from technical support). Not compatible with any other firmware options. Radio does not retain all normal 180-Series conventional or LTR trunking features once the MPT option is installed.		KWD-180MPT
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	TFS-- Tactical Feature Set-- Field Upgrade Kit for 180-Series Must order <u>L-1624</u> Note: Refer to 180-Series "Tactical Feature Set" In-Depth Technical Manual for feature details (available from technical support). Not compatible with any other firmware options.		KWD-180TFS

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>OTAR Option for KWD-AE20K Encryption Module for P25 Conventional Only; models TK-5x10 (VER2; except K7)</p> <p>Must order:</p> <ul style="list-style-type: none"> • With KWD-AE20K (SN 005xxxxx or later) • L-1108 for portable installation (no charge) • L-1109 for mobile Installation (no charge) <p>Notes:</p> <ul style="list-style-type: none"> • Provides OTAR on P25 Conventional only (TIA/EIA-102.AACA compliant; not for use over trunked systems) • Compatible with Motorola KMF P25 conventional OTAR • Not compatible with Motorola-proprietary (non-TIA/P25) KMF features • Not compatible with K7 64 Ch Model • Requires KPG-95D V5.40 or later for radio programming • Option deletes self-programming, cloning and analog FleetSync® (except PTT ID/Emergency) when installed. <p>KWD-RK20 is an U.S. DOC/BIS Export Controlled Item (ECCN 5D002A) - See IMPORTANT NOTES -</p>		KWD-RK20
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>Trunking Option for TK-5210/5710/5310/5810 Order <u>L-1055</u> also</p> <p>Note:</p> <ul style="list-style-type: none"> □ Requires KPG-95DK with Network Level License ID □ Compatible with TK-5210 Version 2 hardware only 		KWD-TR20
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>MPT Trunking Field Upgrade Kit for 180-Series Must order <u>L-1619</u></p> <p>Note: Refer to 180-Series MPT Price Pages and 180-Series MPT In-Depth Technical Manuals for feature details (available from technical support).</p>		KWD-180MPT

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		Not compatible with any other firmware options Radio does not retain all normal 180-Series conventional or LTR trunking features once the MPT option is installed.		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	TFS-- Tactical Feature Set-- Field Upgrade Kit for 180-Series Must order L-1624 Note: Refer to 180-Series "Tactical Feature Set" In-Depth Technical Manual for feature details (available from technical support). Not compatible with any other firmware options.		KWD-180TFS
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AES/DES Encryption Software Key Loader for KWD-DE21K/KWD-AE21K Note: KPG-113AE is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A) - See IMPORTANT NOTES -		KPG-113AE
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DES Encryption Software Key Loader for KWD-DE21K/KWD-AE21K Note: KPG-114DE is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1) - See IMPORTANT NOTES -		KPG-114DE
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	USB Programming interface Cable 2-PRONG		KPG-22UM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	USB Programming interface Cable MULTI-PIN		KPG-36UM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	USB Programming interface Cable - MOBILE		KPG-46UM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	TK-5210/5310/5400 KVL-3000/3000 Plus Interface Cable		KPG-93
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-480/481/980/981		KPG-49DK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Program Software for TK-190/6110 (Version 2.00)		KPG-59DK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Portable-to-Portable Cloning Cable (For TK-190/290/390/480/481 Only)		E30-3325-05

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	PassPort® Radio Programming Software V2.00 or higher		KPG-63DK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	PassPort® ESN Field Installation Software		KPG-64DK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	FleetSync® Enhanced Option Installation Software Note: Required for L-925/926/927 & SRB08698 use.		KPG-65EDK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-2140/3140 portable (Compatible with FCC Part 90 Narrowbanding) Note: Self-programming is not available.		KPG-74DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-5400 - Includes DES encryption key loader; An export license is likely required (DOC/BIS ECCN 5D002A)		KPG-78DTKL (V2.02)
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-2180/3180/7180/8180 (Compliant with FCC Part 90 Narrowbanding) Note: Self-programming & Tactical Feature Set* functions are not available. *KPG-89DK is required for Tactical Feature Set. KPG-89DK is no longer supported or distributed		KPG-89DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-5x10 & TK-5x10G Portables & Mobiles (Compliant with FCC Part 90 Narrowbanding) Note: Self-programming function is not available. Analog & P25 Conventional Programming A "Dealer-Level" License ID is included with each KPG-95D/DG(N)K which only permits full analog conventional and P25 conventional programming. Data files created with a "Network-Level Licensed" KPG-95D/95DG(N) and containing P25 programmed P25 trunked network parameters can be loaded and viewed with a Dealer-Level Licensed KPG-95D/DG(N)K, but the trunked		KPG-95DGNK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		<p>network parameters cannot be changed.</p> <p><u>P25 Trunked Programming Capability (licensed by either 1 or 2 below):</u></p> <p>1. KPG-95DG(N)K with System Key File (*.SKF)- See L-989</p> <ul style="list-style-type: none"> • For all TK-5x10 radio platforms (VER1, 2, 3 or later). • 3-digit HEX System ID (HSID) and verifiable written authorization required from trunked system operator (SYSOP). • Purchase KPG-95DG(N)K & L-989 Network-Level License ID • Kenwood ships an encrypted *.SKF file on CD ROM • The *.SKF securely embeds/encrypts the 16-digit Network Level License ID & the HSID. <p>2. KPG-95DG(N)K with Advanced Network Keys (ANK's)</p> <ul style="list-style-type: none"> • For TK-5x10G/5410/5910 VER 3 or later radio platforms only. • SYSOPs: Refer to KWD-ANK-MK Master Key • Dealers/contractors: Refer to KWD-ANK-AK Access Key • KPG-95DG(N)K (V7.0 or later) supports up to 16 KWD-ANK-AK Access Keys (16 trunked networks). 		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>Master Key for activating KWD-ANK-AK Access Keys</p> <p>- Restricted Purchase Requirements -</p> <p><u>Notes:</u></p> <ul style="list-style-type: none"> • For TK-5x10G/5410/5910 VER 3 or later radio platforms only. • Sold to SYSOP or SYSOP authorized entities only • Must have KPG-95DG(N)K (V7.0 or later) with L-989 Network-Level License ID 		KWD-ANK-MK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		<ul style="list-style-type: none"> • SYSOP must provide 3-digit HEX HSID to Kenwood. • Purchase KWD-ANK-AK Access Keys if needed. • Battery Life: 3 years (non-serviceable; key must be replaced) 		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Access Key for KPG-95DG(N)K P25 trunked programming Notes: <ul style="list-style-type: none"> • For TK-5x10G/5410/5910 VER 3 or later radio platforms only • Must be activated by a SYSOP with KWD-ANK-MK Master Key. • Must have KPG-95DG(N)K (V7.0 or later); L-989 is NOT required. • Battery Life: 3 years (non-serviceable; key must be replaced) 		KWD-ANK-AK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Yellow Housing Kit for NX-x00 portables (6 Control Keys Version Only) Order L-1714 for Factory Install. (required for Intrinsically Safe & IP67 radio orders)		KWD-YH20-NX
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Orange Housing Kit for NX-x00 portables (6 Control Keys Version Only) Order L-1739 for Factory Install. (required for Intrinsically Safe & IP67 radio orders)		KWD-OH20-NX
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Yellow Housing Kit for TK-5x20 portables (6 Control Keys Version Only) Order L-1713 for Factory Install. (required for Intrinsically Safe & IP67 radio orders)		KWD-YH20-P25
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Orange Housing Kit for TK-5x20 portables (6 Control Keys Version Only) Order L-1738 for Factory Install. (required for Intrinsically Safe & IP67 radio orders)		KWD-OH20-P25
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for 180-Series MPT (Compliant with FCC Part 90 Narrowbanding) (Dealer Level License ID included) Note: Must order L-1013 for Network		KPG-96DNK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		Level License ID & programming privileges		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-2170/3170/3173 (Compliant with FCC Part 90 Narrowbanding) Note: Self-programming function is not available.		KPG-101DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for NX 200/210/300/410/411/700/800/900/901 (Compliant with FCC Part 90 Narrowbanding)		KPG-111DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-5*20 Series (Compliant with FCC Part 90 Narrowbanding)		KPG-112DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Key Loader Interface Cable for Motorola KVL-3000/3000 Plus		KPG-115
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-2302V/3302U		KPG-119DN
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-7302HVK/TK-8302HUK (Compliant with FCC Part 90 Narrowbanding)		KPG-124DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-2360/3360 (Compliant with FCC part 90 Narrowbanding)		KPG-128DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-2312/3312 (Compliant with FCC part 90 Narrowbanding)		KPG-134DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for NX-220/320/420 (Compliant with FCC part 90 Narrowbanding)		KPG-141DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for NX Series MPT (Compliant with FCC Part 90 Narrowbanding) (Dealer Network License ID included) Note: Must order L-1727 for network Level License ID & programming privileges		KPG-143DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	NEXEDGE OTAP MANAGER WINDOWS SOFTWARE *LICENSE Includes 10 radios/1 Serial Port* *To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-		KPG-150AP

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		TRUNKING]		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AES/DES Encryption Software Key Loader for KWD-DE21K/KWD-AE21K Note: KPG-151AE is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A) - See IMPORTANT NOTES -		KPG-151AE
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-2402VK/3402UK (Compliant with FCC part 90 Narrowbanding)		KPG-159DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-2400/3400		KPG-160DK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Programming software for NX-200/300/700/800 with PassPort®/NEXEDGE® Options Installed (12.5 /6.25 CH bandwidths only) • Programs NEXEDGE, PassPort®, LTR & analog Conventional modes. • Not for use on a standard NEXEDGE radios • KPG-111D(N) Must be installed in PC prior to installing KPG-163DNK.		KPG-163DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	PassPort ESN Generator device for NX-200/300/700/800 Note: PGM-NX-PP is stocked in minimum quantities. Please anticipate a minimum of 30 day lead time and call order desk to verify availability. • The TK-x180 PassPort ESN Generator device is NOT compatible for NX-x00 ESN loads. • The PGM-NX-PP requires older KPG-36AM (portable) & KPG-46AM (mobile) radio program interface cables with serial DB9 and an aftermarket DB9F-to-DB25M adapter ("KPG-XXUM" USB style cables are not compatible).		PGM-NX-PP
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Hardware Key		SRB08698
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Horn Alert/P.A. Relay Option		KAP-2

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Ignition sense cable (requires KCT-39 Acc. Cable Option)		KCT-18
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Accessory connector cable (for ignition sense, horn alert, KSP- spkrs, & Data Port)		KCT-19
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Remote Control Cable (8 Feet)		KCT-22M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Remote Control Cable (17 Feet) (typical sedan length)		KCT-22M2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Remote Control Cable (25 Feet)		KCT-22M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DC Cable (10-50W Dash mount; pos/neg. 10 ft. leads)		KCT-23M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DC Cable (10-50W Remote mount; pos.23 ft.; neg. 3.3. ft. leads)		KCT-23M3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DC Cable (50-110W Remote mount)		KCT-23M4
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KGP-2A/2B & KDS-100 Radio Interface Cable for 80-Series Mobiles		KCT-34
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Extension Cable for KCT-34/35/39/40M; 117.6 inches (9.8 ft)		KCT-36
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KGP-2A/2B & KDS-100 Radio Interface & Accesory Cable		KCT-39
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KGP-2A/2B & KDS-100 Radio Interface Cable		KCT-40M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Ignition sense cable (plugs directly into mobile chassis ignition sense line)		KCT-46
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DB15-TO-15PIN Molex Adapter Cable		KCT-60M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Line Filter (suppresses alternator whine, 25dB, 25A max).		KLF-2
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Medium Power Mounting Bracket (10-50W models)		KMB-5

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Mobile mounting bracket (same as supplied)		KMB-6
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	High Power Mounting Bracket with built-in key lock (50-110W models)		KMB-9
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Key Lock Adapter for use with KMB-4/5/6		KMB-10
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Remote Control Kit for TK-7150/8150 Note: purchase KCT-22M/M2/M3 cable separately		KRK-9
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Remote Control Kit (a remote control cable (23 ft) is included)		KRK-10
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	PC Serial Interface cable (80-Series mobile-to-PC connection for FleetSync®)		KCT-31
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Control Station Mounting Case for KPS-15 Power Supplies (mobile mounting hardware included)		KMB-24
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)		KPS-15
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M, KCT-23M2, KMB-9, KMC-27		10BHD
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M, KCT-23M, KMB-5, KMC-27		10BMD
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M, KCT-23M, KMB-9, KMC-27		10BMD-9
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M, KRK-5, KCT-22M2, KCT-23M3, KMB-9, KMC-27		10BMSH-9
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M(x2), KRK-6DH, KCT-22M2(x2), KCT-23M3, KMB-9, KMC-27(x2)		10BMDH-9
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M, KCT-23M2, KMB-9, KMC-27, KES-5		10FHD
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M, KCT-23M, KMB-5, KMC-27, KES-5		10FMD
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M, KCT-23M, KMB-9, KMC-27, KES-5		10FMD-9
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M, KRK-5, KCT-22M2, KCT-23M3, KMB-9, KMC-27, KES-5		10FMSH-9

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M(x2), KRK-6DH, KCT-22M2(x2), KCT-23M3, KMB-9, KMC-27(x2), KES-5(x2)		10FMDH-9
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10, KCT-23M2, KMB-9, KMC-27		9BHD1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10, KCT-23M, KMB-5, KMC-27		9BMD1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11, KCT-23M2, KMB-9, KMC-27, KES-5		9FHD1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11, KCT-23M, KMB-5, KMC-27, KES-5		9FMD1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10, KRK-5, KCT-22M2, KCT-23M4, KMB-9, KMC-27		9BHSH1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10, KRK-5, KCT-22M2, KCT-23M3, KMB-5, KMC-27		9BMSH1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11, KRK-5, KCT-22M2, KCT-23M4, KMB-9, KMC-27, KES-5		9FHSH1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11, KRK-5, KCT-22M2, KCT-23M3, KMB-5, KMC-27, KES-5		9FMSH1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10(x2), KRK-6DH, KCT-22M2(x2), KCT-23M4, KMB-9, KMC-27(x2)		9BHDH1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10(x2), KRK-6DH, KCT-22M2(x2), KCT-23M3, KMB-5, KMC-27(x2)		9BMDH1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11(x2), KRK-6DH, KCT-22M2(x2), KCT-23M4, KMB-9, KMC-27(x2), KES-5(x2)		9FHDH1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11(x2), KRK-6DH, KCT-22M2(x2), KCT-23M3, KMB-5, KMC-27(x2), KES-5(x2)		9FMDH1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M, KRK-5, KCT-22M2, KCT-23M4, KMB-9, KMC-27		10BHSH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M, KRK-5, KCT-22M2, KCT-23M3, KMB-5, KMC-27		10BMSH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M, KRK-5, KCT-22M2, KCT-23M4, KMB-9, KMC-27, KES-5		10FHSH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M, KRK-5, KCT-22M2, KCT-23M3, KMB-5, KMC-27, KES-5		10FMSH

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10, KRK-7DB, KMC-27, KCT-22M2, KCT-23M4(x2), KMB-9(x2)		9BHHDB
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10, KRK-7DB, KMC-27, KCT-22M2, KCT-23M3, KCT-23M4, KMB-5, KMB-9		9BHMDB
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10, KRK-7DB, KMC-27, KCT-22M2, KCT-23M3(x2), KMB-5(x2)		9BMMDB
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11, KRK-7DB, KMC-27, KES-5, KCT-22M2, KCT-23M4(x2), KMB-9(x2)		9FHHDB
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11, KRK-7DB, KMC-27, KES-5, KCT-22M2, KCT-23M3/KCT-23M4, KMB-5/KMB-9		9FHMDB
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11 KRK-7DB, KMC-27, KES-5, KCT-22M2, KCT-23M3(x2), KMB-5(x2)		9FMMDB
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M4(x2), KMB-9(x2)		9BBHH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M3, KCT-23M4, KMB-5, KMB-9		9BBHM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-10(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M3(x2), KMB-5(x2)		9BBMM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M4(x2), KMB-9(x2), KES-5(x2)		9FFHH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M3, KCT-23M4, KMB-5, KMB-9, KES-5(x2)		9FFHM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-11(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M3(x2), KMB-5(x2), KES-5(x2)		9FFMM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M(x2), KRK-6DH, KCT-22M2(x2), KCT-23M4, KMB-9, KMC-27(x2)		10BHDH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-14M(x2), KRK-6DH, KCT-22M2(x2), KCT-23M3, KMB-5, KMC-27(x2)		10BMDH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M(x2), KRK-6DH, KCT-22M2(x2), KCT-23M4, KMB-9, KMC-27(x2), KES-5(x2)		10FHDH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-15M(x2), KRK-6DH, KCT-22M2(x2), KCT-23M3, KMB-5, KMC-27(x2), KES-5(x2)		10FMDH

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-16M, KRK-11M, KCT-22M2, KCT-23M4, KMB-9, KES-5		10CHSH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-16M, KRK-11M, KCT-22M2, KCT-23M3, KMB-9, KES-5		10CMSH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Basic Control Panel		KCH-10
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Full Featured Control Panel		KCH-11
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Basic Remote Control Head w/ 12 Alphanumeric Display (4W Front Speaker) Note: All KCH-14 / Basic Control Head configurations are shipped with the control heads 4W internal speaker enabled. Order L-1008 to enable the 13W external speaker output for KES-5 speaker use. This will disconnect the control heads internal 4W speaker !		KCH-14M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Full-Featured Remote Control Head w/ 14 Alphanumeric Display Note: requires an external speaker		KCH-15M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Single Control Head Remote Mount Kit		KRK-5
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Dual Control Head Remote Mount Kit		KRK-6DH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Dual Band Control Head Remote Mount Kit		KRK-7DB
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Dual Band Dual Head Remote Mount Kit		KRK-8DBH
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Handheld Control Head for P25 Mobiles Note: requires KRK-11M, KCT-22M/M2/M3, & KES-5		KCH-16M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	KCH-16M HHCH Interface Kit for Single Head Remote		KRK-11M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	External speaker (compact low profile; black case; 3.5 mm phono plug-in)		KES-3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	External speaker, 40W max input		KES-5
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Noise canceling microphone		KMC-2A

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Standard dynamic mobile microphone		KMC-14
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DTMF mic, manual dial, auto PTT, Backlit keypad, MILSTD		KMC-18
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC noise-canceling mobile hand microphone		KMC-27
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC DTMF noise-canceling mobile hand microphone		KMC-28
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC & Noise Canceling dynamic mobile microphone (8-pin mod. plug)		KMC-27A
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Standard dynamic mobile microphone (8-pin mod. plug)		KMC-27B
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	MIL-SPEC & Noise Canceling dynamic mobile microphone (8-pin mod. plug) w/ DTMF		KMC-28A
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Standard mobile microphone (8-pin mod. plug)		KMC-30
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Low profile mobile microphone with 16 DTMF keypad (8-pin mod. plug)		KMC-32
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Standard dynamic mobile microphone (8-pin mod. plug)		KMC-35
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Standard dynamic mobile microphone with 12 keypad (8-pin mod. plug)		KMC-36
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Control station desktop microphone		KMC-9
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Desk top microphone		KMC-9B
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Control Station Desktop Microphone (8-pin mod. plug)		KMC-9C
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Garmin On-dash Style Magnetic base GPS Antenna for GPS15L-W Note: shipped loose only; Install GA25MCX antenna to GPS15L-W before vehicle install; Refer to 180/NX-Series In-depth Technical Manuals for mobile installation.		GA25MCX
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Garmin Internal GPS Receiver Board for FleetSync® AVL Note:		GPS15XL-W

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		<ul style="list-style-type: none"> • Conventional & LTR operation only • Requires GA25 MCX GPS antenna • Refer to 180/NX-Series & KGS-3 In-Depth Technical Manuals for installation, programming & KGS-3 software setup. Refer to www.garmin.com for GPS-15L-W technical specifications. • Option: Order L-XXXX for Kenwood Long Beach installation 		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	FleetSync® & NEXEDGE™ AVL & Messaging Software (Windows® 2000/XP compatible), Note: AVL operation /use is not required. Compatible with Microsoft®MapPoint®2004/2006 Software or certain type imported maps (purchase aftermarket separately) Refer to KGS-3 spec sheet for detailed features & requirements.		KGS-3
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	FleetSync® & NEXEDGE™ AVL & Messaging Software (Windows® XP/VISTA compatible), Note: AVL operation /use is not required. Compatible with Microsoft®MapPoint®2006/2009 Software or certain type imported maps (purchase aftermarket separately) Refer to KAS-10 spec sheet for detailed features & requirements.		KAS-10
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	FleetDispatchPRO: FleetSync® messaging dispatch software for PC (Windows® 98/Me/NT/2000/XP compatible) Note: <ul style="list-style-type: none"> • TK-7180/8180/7150/8150 base mobile requires a DB-25 PC serial cable to connect to the base computer (purchase aftermarket seperately). • TK-980/981base mobile requires a KCT-31 PC serial cable to connect to the base computer (purchase seperately). • Supports FleetSync® PTT ID, Emergency, Status/Text Messaging for all FleetSync 		KAS-2FSD

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		compatible portables & mobiles. • KDS-100 fleet units are compatible with the KAS-2FSD FleetSync calling & messaging features. • Refer to KAS-2FSD spec sheet for detailed features & requirements		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	NEXEDGE [®] Image Encoder Unit Note: • Wireless Image System Monitor Station Operation. • KAS-11 is required for programming. • Not include Cameras (purchase aftermarket separately). • Works with NX-700/800 6.25/12.5Khz Digital mode, Radio to Radio, via Conventional Repeater, Trunking Repeater and Conventional IP Network. • Refer to Wireless Image Basic Operation and Installation Guide for detailed features & requirements.		KVT-11
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	NEXEDGE [®] Image Viewer Software (Windows [®] XP/VISTA/7 compatible), Note: • Wireless Image System Base Station Operation. • Works with NX-700/800 6.25/12.5Khz Digital mode, Radio to Radio, via Conventional Repeater, Trunking Repeater and Conventional IP Network. • Refer to Wireless Image Basic Operation and Installation Guide for detailed features & requirements.		KAS-11
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	FleetSync [®] Data Terminal Note: The KDS-100 pigtail cable (1.83 ft) combined with the KDS-100 mobile interface cables KCT-34/35/39/40M (1 ft.) and use a KCT-36 (9.8 ft.) for an extension.		KDS-100
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Radio Interface Cable for KGP-2A/2B & KDS-100		KCT-34

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Radio Interface Cable for KGP-2A/2B & KDS-100		KCT-35
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Extension Cable for KCT-34/35/39/40M; 117.6 inches (9.8 ft)		KCT-36
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Radio Interface Cable for KGP-2A/2B & KDS-100		KCT-39
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Radio Interface Cable for KGP-2A/2B & KDS-100		KCT-40M
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for KDS-100		KPG-71DK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DES Encryption Software Key Loader for KWD-DE21K/KWD-AE21K Note: KPG-114DE is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1) - See NOTES		KPG-114DE
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AES/DES Encryption Software Key Loader for KWD-DE21K/KWD-AE21K Note: KPG-113AE is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A) - See NOTES		KPG-113AE
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	OTAR Option for KWD-AE20K Encryption Module for P25 Conventional Only; models TK-5x10 (VER2; except K7) Must order: • With KWD-AE20K (SN 005xxxxx or later) • L-1108 for portable installation (no charge) • L-1109 for mobile Installation (no charge) Notes: • Provides OTAR on P25 Conventional only (TIA/EIA-102.AACA compliant; not for use over trunked systems) • Compatible with Motorola KMF P25 conventional OTAR • Not compatible with Motorola-proprietary (non-TIA/P25) KMF features • Not compatible with K7 64 Ch Model • Requires KPG-95D V5.40 or later for radio programming		KWD-RK20

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		<ul style="list-style-type: none"> Option deletes self-programming, cloning and analog FleetSync® (except PTT ID/Emergency) when installed. <p>KWD-RK20 is an U.S. DOC/BIS Export Controlled Item (ECCN 5D002A) - See IMPORTANT NOTES -</p>		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>Trunking Option for TK-5210/5710/5310/5810 - Must order L-1056 Must order <u>L-1056</u> Note: KPG-95DK Requires Network Level License ID to program trunked network radio parameters (see KPG-95D for purchase restrictions & requirements) Compatible with TK-5210 Version 2 (SN 80600001 or later); TK-5310 (SN 809xxxxx or later); TK-5710 Version 2 (SN806xxxxx); TK-5810 (SN 809xxxxx or later)</p>		KWD-TR20
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>MPT Trunking Field Upgrade Kit for 180-Series Must order <u>L-1620</u> Note: Refer to 180-Series MPT Price Pages and 180-Series MPT In-Depth Technical Manuals for feature details (available from technical support). Not compatible with any other firmware options Radio does not retain all normal 180-Series conventional or LTR trunking features once the MPT option is installed.</p>		KWD-180MPT
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>TFS-- Tactical Feature Set-- Field Upgrade Kit for 180-Series Must order <u>L-1625</u> Note: Refer to 180-Series "Tactical Feature Set" In-Depth Technical Manual for feature details (available from technical support). Not compatible with any other firmware options.</p>		KWD-180TFS
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	<p>AES FIPS140-2 & DES Encryption Module for TK-5210/5710/5310/5810 Order <u>L-1345</u> if installation is required.</p>		KWD-AE20K

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
		KWD-AE20K requires: a Motorola KVL3000 Plus key loader device. KWD-AE20K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)- See NOTES		
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	AES & DES Encryption Module for TK-5210/5710/5310/5810 Order L-1346 if installation is required. Note: Requires KPG-113AE software key loader or Motorola KVL3000 Plus key loader device. KWD-AE21K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)- See NOTES		KWD-AE21K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DES Encryption Module for TK-5210/5710/5310/5810 Order L-1601 if installation is required. KWD-DE20K requires: a Motorola KVL3000 or KVL3000 Plus key loader device. KWD-DE20K is a U.S. DOC/BIS Export Controlled Item (ECCN 5A992A) - See NOTES		KWD-DE20K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	DES Encryption Module for TK-5210/5710/5310/5810 Order L-1602 if installation is required Note: Requires KPG-114DE or KPG-113AE software key loader or Motorola KVL3000 Plus key loader device KWD-DE21K is a U.S. DOC/BIS Export Controlled Item (ECCN 5A992A) - See NOTES		KWD-DE21K
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Voice Guide and Storage Unit		VGS-1
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Mobile Programming interface cable		KPG-4
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Programming interface Cable		KPG-43UM
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Radio Interface Cable for KGP-2A/2B & KDS-100		KCT-35
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Extension Cable for KCT-34/35/39/40M; 117.6 inches (9.8 ft)		KCT-36
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Program Software for TK-190/6110 (Version 2.00)		KPG-59DK

KENWOOD PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for KDS-100		KPG-71DK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Key Loader Interface Cable for Motorola KVL-3000/3000 Plus		KPG-94
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Windows® Programming Software for TK-7360/8360 (Compliant with FCC Part 90 Narrowbanding)		KPG-135DNK
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Hardware Key (Sentinel Super Pro) Note: The SRB08698 hardware key requires L-905, 906 or 907 options to be loaded into it. The hardware key requires the KPG-65ED to activate FleetSync® Enhanced Options in an 80-Series radio. The SRB08698 hardware key can be returned when empty for 50% credit. Call the LMR order desk for an RMA#. Credit will NOT be issued for the L-905/906/907 options.		SRB08698
13.0 - PARTS & ACCESSORIES	Kenwood USA Corporation	Horn Alert/P.A. Relay Option (requires KCT-19)		KAP-1

KENWOOD PROFESSIONAL SERVICES

DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Assembly	Kenwood USA Corporation	0.0%	15.00	Fixed	Assemble KMB-16 with six KSC-20/24/25/25L (Rapid Rate, 120 Volt version only) Must order Labor Code# L-836
Assembly	Kenwood USA Corporation	0.0%	17.00	Fixed	Package Dash/Single Head Remote for 90-series mobiles Must order Labor Code# L-846
Assembly	Kenwood USA Corporation	0.0%	34.00	Fixed	Package Dual Head Remote for 90-series mobiles Must order Labor Code# L-847
Assembly	Kenwood USA Corporation	0.0%	34.00	Fixed	Package Dual Band Remote for 90-series mobiles Must order Labor Code# L-848
Assembly	Kenwood USA Corporation	0.0%	50.00	Fixed	Package Dual Band Dual Head Remote for 90-series mobiles Must order Labor Code# L-849
Assembly	Kenwood USA Corporation	0.0%	17.00	Fixed	Assemble KMB-23 with six KSC/24/25/25L/32 (Rapid Rate, 120 Volt versions only) Must order Labor Code# L-961
Assembly	Kenwood USA Corporation	0.0%	25.00	Fixed	Assemble TK-7180/8180 with KRK-10 Remote Kit Must use Labor Code# L-968
Assembly	Kenwood USA Corporation	0.0%	17.00	Fixed	Package Dash/Single Head Remote for 5*10 mobiles Must Order Labor Code# L-1028
Assembly	Kenwood USA Corporation	0.0%	34.00	Fixed	Package Dual Head Remote for 5*10 mobiles Must Order Labor Code# L-1029
Assembly	Kenwood USA Corporation	0.0%	42.00	Fixed	Assemble NX-700/800/900/901 with KRK-10 Remote Kit Must use Labor Code L-1099
Assembly	Kenwood USA Corporation	0.0%	25.00	Fixed	Package HHCH Remote for 5*10 mobiles Must Order Labor Code# L-1110
Assembly	Kenwood USA Corporation	0.0%	42.00	Fixed	Assemble TK-5720/5820 with KRK-10 Remote Kit Must order Labor Code# L-1656
Assembly	Kenwood USA Corporation	0.0%	27.00	Fixed	Assemble Yellow Housing KWD-YH20-P25 with TK-5x20 Portable Must order Labor Code# L-1713
Assembly	Kenwood USA Corporation	0.0%	27.00	Fixed	Assemble Yellow Housing KWD-YH20-NX with NX-200K/300K/300K3 Portable Must order Labor Code# L-1714
Assembly	Kenwood USA Corporation	0.0%	27.00	Fixed	Assemble Orange Housing KWD-OH20-P25 with TK-5x20 Portable Must order Labor Code# L-1738
Assembly	Kenwood USA Corporation	0.0%	27.00	Fixed	Assemble Orange Housing KWD-OH20-NX with NX-200K/300K/300K3 Portable Must order Labor Code# L-1739
Cut KRA-21	Kenwood USA Corporation	0.0%	10.00	Fixed	Cut KRA-21 Low Band Antenna Must order Labor Code# L-914

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Field Retrofit qty 100+	Kenwood USA Corporation	0.0%	50.00	Fixed	FleetSync® Enhanced Option (field retrofit) for 140-series; Price each for qty. 100+ Must order Labor Code# L-927
Field Retrofit Qty 1-24	Kenwood USA Corporation	0.0%	50.00	Fixed	FleetSync® Enhanced Option (field retrofit) for 140-series; Price each for qty. 1-24 Must order Labor Code# L-925
Field Retrofit qty 25-99	Kenwood USA Corporation	0.0%	50.00	Fixed	FleetSync® Enhanced Option (field retrofit) for 140-series; Price each for qty. 25-99 Must order Labor Code# L-926
Field Upgrade	Kenwood USA Corporation	0.0%	42.00	Fixed	TK-5210/5310 KWD-TR20 FIELD-UPGRADE (Must purchase KWD-TR20 separately) Must order Labor Code# L-1067
Field Upgrade	Kenwood USA Corporation	0.0%	NC	Fixed	180 Portable KWD-180MPT FIELD-UPGRADE (Must purchase KWD-180MPT separately) Must order Labor Code# L-1619
Field Upgrade	Kenwood USA Corporation	0.0%	NC	Fixed	180 Mobile KWD-180MPT FIELD-UPGRADE (Must purchase KWD-180MPT separately) Must order Labor Code# L-1620
Field Upgrade	Kenwood USA Corporation	0.0%	NC	Fixed	180 Portable KWD-180TFS FIELD-UPGRADE (Must purchase KWD-180TFS separately) Must order Labor Code# L-1624
Field Upgrade	Kenwood USA Corporation	0.0%	NC	Fixed	180 Mobile KWD-180TFS FIELD-UPGRADE (Must purchase KWD-180TFS separately) Must order Labor Code# L-1625
Field Upgrade	Kenwood USA Corporation	0.0%	N/C	Fixed	TK-5220/5320 KWD-TR30 FIELD-UPGRADE (Must purchase KWD-TR30 separately) Must order Labor Code# L-1696
Field Upgrade	Kenwood USA Corporation	0.0%	N/C	Fixed	TK-5720/5820 KWD-TR30 FIELD-UPGRADE (Must purchase KWD-TR30 separately) Must order Labor Code# L-1697
Field Upgrade	Kenwood USA Corporation	0.0%	85.00	Fixed	Retrofit Install of MPT option in NX series radio For previously purchased NX series radios. Order L-1728 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1728 provided by order desk & copy of company P.O. or P.O. number. Note: see NX series MPT Introduction Sales Bulletin for details Must order Labor Code# L-1728
Field Upgrade	Kenwood USA Corporation	0.0%	42.00	Fixed	KWD-RK20 Field Upgrade Option for TK-5x10/5x10G/5410(Must purchase KWD-RK20 separately) Must order Labor Code# L-1733
Field Upgrade	Kenwood USA	0.0%	42.00	Fixed	KWD-RK20 Field Upgrade Option for TK-5x10/5x10G/5910

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
	Corporation				(Must purchase KWD-RK20 separately) Must order Labor Code# L-1734
Field Upgrade	Kenwood USA Corporation	0.0%	80.00	Fixed	Field Retrofit PassPort®-Classic / NEXEDGE option for NX-200/300/700/800 (order one option per the number of ESNs required) <ul style="list-style-type: none"> • ESN activation file with ordered number of ESNs and firmware will be shipped on a CD ROM. Allow 15 business days ARO. • KPG-163DNK required to program radio • Requires PGM-NX-PP PassPort ESN Generator device • Note: The TK-x180 PassPort ESN Generator device is NOT compatible for NX-x00 ESN loads. Must order Labor Code# L-1745
Field Upgrade	Kenwood USA Corporation	0.0%	108.35	Fixed	Field Retrofit PassPort®-Enhanced / NEXEDGE Option for NX-200/300/700/800 orders (order option one per the number of ESNs required) <ul style="list-style-type: none"> • ESN activation file with ordered number of ESNs and firmware will be shipped on a CD ROM. Allow 15 business days ARO. • KPG-163DNK required to program radio • Requires PGM-NX-PP PassPort ESN Generator device • Note: The TK-x180 PassPort ESN Generator device is NOT compatible for NX-x00 ESN loads. Must order Labor Code# L-1746
Fixed Station Modification	Kenwood USA Corporation	0.0%	160.00	Fixed	TKR-740/840 Circuit Modification Required for use ith passport-NTS Protocol Must use Labor Code# L-8000
Fixed Station Modification	Kenwood USA Corporation	0.0%	750.00	Fixed	TKR-740/840 Circuit Modification for Existing Repeaters Note: Previously purchased TKR-740/840 repeaters require a Kenwood modification. Must use Labor Code# L-8001
Install Battery	Kenwood USA Corporation	0.0%	0.00	Fixed	Install KNB-21N/22N/22NC/51NC/52N battery Must order Labor Code# L-837
Installation	Kenwood USA Corporation	0.0%	70.00	Fixed	Install Horn Alert output relay for 90-series mobiles (1 amp max.) --- Part #S76-0407-05 Relay incl. Must order Labor Code# L-861
Installation	Kenwood USA Corporation	0.0%	15.00	Fixed	Install Key Inserts for TK-5*10/90-series mobiles Note: For new radio tune orders only. Installs only the included KCH-10/11 key inserts. Must specify keys and placement (see Service Manuals for placement diagram, pg.

KENWOOD PROFESSIONAL SERVICES

DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
					14). Also, see Service Manuals for technical details (pg. 14). Other Key Inserts are available from Parts Dept. See the "Service Related Accessories" section of the 90-series mobiles pricepages for more information. Must order Labor Code# L-862
Installation	Kenwood USA Corporation	0.0%	21.00	Fixed	Install KCT-31 in 80-Series mobile (order KCT-31 separately) Must Order Labor Code# L-918
Installation	Kenwood USA Corporation	0.0%	50.00	Fixed	FleetSync® Enhanced Option Must order Labor Code# L-928
Installation	Kenwood USA Corporation	0.0%	21.00	Fixed	Install KCT-34 in 80-Series mobile for KDS-100/KPG-2A/2B Interface Must order Labor Code L-929
Installation	Kenwood USA Corporation	0.0%	25.00	Fixed	Install KAP-2 (Default) HR1/internal Sp/PA Must use Labor Code# L-966
Installation	Kenwood USA Corporation	0.0%	25.00	Fixed	Install KAP-2 (External Sp.) KR1/External Sp/PA Must order Labor Code# L-1010
Installation	Kenwood USA Corporation	0.0%	85.00	Fixed	Retrofit Install of MPT option in 180-Series radio For previously purchased 180-Series radios. Order L-1014 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1014 provided by order desk & copy of company P.O. or P.O. number. Note: Only certain Serial Number Lots produced in late 2004 and later can be retrofitted - see 180-Series MPT Introduction Sales Bulletin for details Must order Labor Code# L-1014
Installation	Kenwood USA Corporation	0.0%	100.00	Fixed	Install Garmin GPS15XL-W in 180-Series mobile for FleetSync® AVL Note: The KGS-3 & GPS15XL-W are not compatible with KGP-2A/2B AVL systems Must order Labor Code# L-1033
Installation	Kenwood USA Corporation	0.0%	20.00	Fixed	80/90 PORTABLE KCT-57MS INSTALLATION (FOR FLEETSYNC) Must order Labor Code# L-1060
Installation	Kenwood USA Corporation	0.0%	25.00	Fixed	Change Channel to other frequencies or program TK-3230
Installation	Kenwood USA Corporation	0.0%	25.00	Fixed	Install KAP-2 (Default) HR1/Internal Sp/PA Must use Labor Code L-1094
Installation	Kenwood USA Corporation	0.0%	100.00	Fixed	Install Garmin GPS15XL-W in NX-Series mobile for Fleetsync® AVL Must use Labor Code L-1098
Installation	Kenwood USA	0.0%	N/C	Fixed	Install KWD-RK20 OTAR Option in TK-5x10 & TK-5x10G

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
	Corporation				Series (Must purchase KWD-RK20 separately) Must order Labor Code# L-1108
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE20K in TK-5x10 & TK-5x10G Series Portables Must order Labor Code# L-1236 (Must purchase module separately)
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE20K in TK-5*10 Mobile Must Order Labor Code# L-1345 (Must purchase module separately)
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE21K in TK-5*10 Mobile Must Order Labor Code# L-1346 (Must purchase module separately)
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-DE21K in TK-5*10 Mobile Must Order Labor Code# L-1602 (Must purchase module separately)
Installation	Kenwood USA Corporation	0.0%	100.00	Fixed	Install Garmin GPS15XL-W in 302-Series mobile for FleetSync® AVL Must order Labor Code# L-1643
Installation	Kenwood USA Corporation	0.0%	25.00	Fixed	Install VGS-1 Voice Guide & Storage Unit TK-5220/5320 Must order Labor Code# L-1645
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-DE21K in TK-5x10 & TK-5x10G Series Portables (Must purchase module separately) Must order Labor Code L-1649
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE21K in TK-5220/TK-5320 Portables (Must purchase module separately) Must order Labor Code# L-1650
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-DE21K in TK-5220/TK-5320 Portables (Must purchase module separately) Must order Labor Code# L-1651
Installation	Kenwood USA Corporation	0.0%	25.00	Fixed	TK-5720/5820 Install KAP-2 (Default) HR1/Internal Sp/PA Must order Labor Code# L-1653
Installation	Kenwood USA Corporation	0.0%	25.00	Fixed	TK-5720/5820 Install KAP-2 HR1/External Sp/PA Must order Labor Code# L-1654
Installation	Kenwood USA Corporation	0.0%	100.00	Fixed	Install Garmin GPS15XL-W in TK-5720/5820 mobiles for FleetSync® AVL Must order Labor Code# L-1655
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE20K in TK-5720/TK-5820 Mobiles (Must purchase module separately) Must order Labor Code# L-1657

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE21K in TK-5720/TK-5820 Mobiles (Must purchase module separately) Must order Labor Code# L-1658
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-DE21K in TK-5720/TK-5820 Mobiles (Must purchase module separately) Must order Labor Code# L-1659
Installation	Kenwood USA Corporation	0.0%	20.00	Fixed	NX-210/410/411 Portable KCT-57MS Installation (for NXDN®/Fleetsynce®) Must order Labor Code# L-1671
Installation	Kenwood USA Corporation	0.0%	20.00	Fixed	TK-2360/3360 Portable KCT-57MS Installation (for FleetSync®/MDC) Must order Labor Code# L-1679
Installation	Kenwood USA Corporation	0.0%	20.00	Fixed	180 Portable KWD-180TFS FIELD-UPGRADE (Must purchase KWD-180TFS separately)
Installation	Kenwood USA Corporation	0.0%	N/C	Fixed	Install KWD-TR30 Trunking Option in TK-5220/5320 (Must purchase KWD-TR30 separately) Must order Labor Code# L-1694
Installation	Kenwood USA Corporation	0.0%	N/C	Fixed	Install KWD-TR30 Trunking Option in TK-5720/5820 (Must purchase KWD-TR30 separately) Must order Labor Code# L-1695
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE20K in NX-200/300 Portables (Must purchase module separately) Must order Labor Code# L-1717
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE21K in NX-200/300 Portables (Must purchase module separately) Must order Labor Code# L-1718
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-DE21K in NX-200/300 Portables (Must purchase module separately) Must order Labor Code# L-1719
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE20K in NX-700/800/900/901 Mobiles (Must purchase module separately) Must order Labor Code# L-1720
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE20K in NX-700/800/900/901 Mobiles (Must purchase module separately) Must order Labor Code# L-1721
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE20K in NX-700/800/900/901 Mobiles (Must purchase module separately) Must order Labor Code# L-1722
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE20K in NX-210/410/411 Portables (Must purchase module separately) Must order Labor

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
					Code# L-1723
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE21K in NX-210/410/411 Portables (Must purchase module separately) Must order Labor Code# L-1724
Installation	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-DE21K in NX-210/410/411 Portables (Must purchase module separately) Must order Labor Code# L-1725
Installation	Kenwood USA Corporation	0.0%	25.00	Fixed	Install MPT option in NX series radio Must order Labor Code# L-1726
Installation	Kenwood USA Corporation	0.0%	20.00	Fixed	Install KCT-57MS (for MPT Emergency Call) NX 200(S)/300(S) Must order Labor Code# L-1730
Installation	Kenwood USA Corporation	0.0%	80.00	Fixed	Install PassPort®-Classic / NEXEDGE option in NX-200/300/700/800 • Order one per radio • KPG-163DNK required to program radio Must order Labor Code# L-1743
Installation	Kenwood USA Corporation	0.0%	108.35	Fixed	Install PassPort®-Enhanced / NEXEDGE Option in NX-200/300/700/800• Order one per radio• KPG-163DNK required to program radio Must order Labor Code# L-1744
Installation (enabling)	Kenwood USA Corporation	0.0%	50.00	Fixed	Simultaneous transpond and alert feature up-grade for 90-series mobiles & portables Must order Labor Code# L-870
Installation (enabling)	Kenwood USA Corporation	0.0%	50.00	Fixed	Simultaneous transpond and alert feature up-grade for 90-series mobiles & portables Must order Labor Code# L-870
Installation and Programming	Kenwood USA Corporation	0.0%	84.00	Fixed	Install firmware & enable NPSPAC operation in TK-480 Note: NPSPAC and PassPort capability are not available in the same firmware option. Must order Labor Code# L-853
Installation and Programming	Kenwood USA Corporation	0.0%	25.00	Fixed	Install VGS-1 Voice Guide & Storage Unit Note: VGS-1 installation precludes any ANI or encryption board installation Must order Labor Code# L-962
Installation and Programming	Kenwood USA Corporation	0.0%	16.67	Fixed	Install MPT option in 180-Series radio Must order Labor Code# L-1012
Installation and Programming	Kenwood USA Corporation	0.0%	100.00	Fixed	TK-2180/3180 TFS INSTALLATION Note: KPG-89DK is required to program the TFS (Tactical Feature Set). KPG-89DK is no longer supported or distributed by Kenwood. TFS will not workwith KPG-89DNK. Must order Labor Code# L-1051
Installation and	Kenwood USA	0.0%	100.00	Fixed	TK-7180/8180 TFS INSTALLATION

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Programming	Corporation				Note: KPG-89DK is required to program the TFS (Tactical Feature Set). KPG-89DK is no longer supported or distributed by Kenwood. TFS will not work with KPG-89DNK. Must order Labor Code# L-1052
Installation and Programming	Kenwood USA Corporation	0.0%	20.00	Fixed	Install KCT-57MS (for MPT Emergency Call) Must order Labor Code# L-1061
Installation and Programming	Kenwood USA Corporation	0.0%	25.00	Fixed	Install VGS-1 Voice Guide & Storage Unit Note: VGS-1 installation precludes any ANI or encryption board installation Must use Labor Code# L-1087
Installation and Programming	Kenwood USA Corporation	0.0%	20.00	Fixed	NX-200(S)/300(S) Portable KCT-57MS Installation (for NXDN® / FleetSync®) Must use Labor Code L-1093
Installation and Programming	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-AE21K in TK-5x10 & TK-5x10G Series Portables (Must purchase module separately) Must order Labor Code# L-1237
Installation and Programming	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-DE20K in TK-5x10 & TK-5x10G Series Portables (Must purchase module separately) Must order Labor Code# L-1559
Installation and Programming	Kenwood USA Corporation	0.0%	75.00	Fixed	Install KWD-DE21K in TK-5x10 & TK-5x10G Series Portables (Must purchase module separately) Must order Labor Code# L-1560
Installation and Programming	Kenwood USA Corporation	0.0%	20.00	Fixed	170/173 Portable KCT-57MS Installation (for FleetSync®) Must order Labor Code# L1609
Installation and Programming	Kenwood USA Corporation	0.0%	20.00	Fixed	180 Portable KCT-57MS Installation (for FleetSync®) Must order Labor Code# L-1611
Installation and Programming	Kenwood USA Corporation	0.0%	20.00	Fixed	TK-5x10 & TK-5x10G Series Portable KCT-57MS Installation (for P25/FleetSync®) Must order Labor Code# L-1614
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure TK-2140/3140 for Intrinsically Safe Must order an I.S. battery Must order Labor Code# L-942
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	100.00	Fixed	Configure TK-5x10-IS & TK-5x10-ISG for Intrinsically Safe Must order an I.S. battery, KNB-41NC-FM Must order Labor Code# L-986
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure TK-2180-IS/3180-IS for Intrinsically Safe Must order an I.S. battery Must order Labor Code# L-994
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure TK-2170/3170 for Intrinsically Safe (Must Order an I.S. Battery) Must order Labor Code# L-1000
Intrinsically Safe Option	Kenwood USA	0.0%	70.00	Fixed	Configure TK-3173 for Intrinsically Safe

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
	Corporation				(Must order an I.S. battery) Must order Labor Code# L-1001
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure TK-290/390 for MSHA Intrinsically Safe Must order KNB-51NC Must use Labor Code# L-1027
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure NX-200/300 for Intrinsically Safe Must order an I.S. battery Must order Labor Code# L-1101
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure TK-5220/5320 for Intrinsically Safe Must order an I.S. battery Must order Labor Code# L-1647
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure TK-2360/3360 for Intrinsically Safe Must order an I.S. Battery Must use Labor Code# L-1716
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure NX-220/320 for Intrinsically Safe Must order an I.S. Battery Must order Labor Code# L-1732
Intrinsically Safe Option	Kenwood USA Corporation	0.0%	70.00	Fixed	Configure NX-210/410/411 for Intrinsically Safe Must order an I.S. battery, KNB-41NC-CSA-US Must order Labor Code# L-1750
Intstallation	Kenwood USA Corporation	0.0%	20.00	Fixed	TK-5220/5320 Portable KCT-57MS Installation (for P25/FleetSync®/MDC-1200) Must order Labor Code# L-1648
Mic Disable	Kenwood USA Corporation	0.0%	17.00	Fixed	EXT PTT / Local KMC-27 mic disable Purpose: Disables the KMC-27 mobile hand mic element when 90-series mobile external PTT is active. For use with data modems, GPS AVL data units, headset systems (motorcycles, ambulance, fire engines), vehicle intercom Must Order Labor Code# L-917
Mic Input	Kenwood USA Corporation	0.0%	10.00	Fixed	90-Series mobile low imp. mic. Input at RF deck Must Order Labor Code# L-912
Mobile Radio Programming	Kenwood USA Corporation	0.0%	NC	Fixed	Tune TK-890 receiver channel spread (20 MHz max.); specify receive spread Must Order Labor Code# L-850
Mobile Radio Programming	Kenwood USA Corporation	0.0%	30.00	Fixed	90 Mobile Programming (with basic TX/RX check) Must order Labor Code# L-854
Mobile Radio Programming	Kenwood USA Corporation	0.0%	25.00	Fixed	80 Mobile Programming (with basic TX/RX check) Must order Labor Code# L-857
Mobile Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	TK-7180/8180 Programming (with basic TX/RX check) Must use Labor Code# L-965
Mobile Radio Programming	Kenwood USA Corporation	0.0%	125.00	Fixed	TK-5*10 Programming (Basic TX/RX check only with factory test freq.s or dealer/customer provided KPG-95D/DG(N) data file) Must Order Labor Code# L-1005

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Mobile Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	NX-700/800 Programming (with basic TX/RX check) Must order Labor Code# L-1085
Mobile Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	TK-7302/8302 Programming (with basic TX/RX check) Must order Labor Code# L-1642
Mobile Radio Programming	Kenwood USA Corporation	0.0%	125.00	Fixed	TK-5720/5820 Programming (Basic TX/RX check only with factory test freq.s or dealer/customer provided KPG-112D(N) data file) Must order Labor Code# L-1652
Mobile Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	NX-900/901 Programming (with basic TX/RX check) Must order Labor Code# L-1692
Mobile Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	NX-720HG/820HG Programming (with basic TX/RX check) Must order Labor Code# L-1751
Modification	Kenwood USA Corporation	0.0%	75.00	Fixed	Modify 90-Series mobile Single Band (Single Head) Mobile for Pyramid Vehicular Repeater Must order Labor Code# L-858
Modification	Kenwood USA Corporation	0.0%	75.00	Fixed	Modify 90-Series mobile Single Band (Dual Head) Mobile for Pyramid Vehicular Repeater Must order Labor Code# L-859
Modification	Kenwood USA Corporation	0.0%	190.00	Fixed	KCT-22A Extended Control Head Cable (up to 50 ft. max.) Note: Please specify exact length at 1ft. increments when ordering. Caution: Extended control head cables exhibit a loss in speaker audio power to the control heads. For either type control head (KCH-10/11), it is recommended that the 13W audio output modification be implemented to drive extended cable runs and a KES-5 external speaker be used. Refer to the service manual pg. 15-17 for 13W modifications. Installing new radio firmware (hex files) via the KPG-44D software nor checking the firmware "checksum" is not possible through an extended control head cable. A standard KCT-22 cable of 25 ft. or less should be used when this has to be done. Normal KPG-44D radio parameter programming is possible at extended lengths. Must order Labor Code# L-864
Modification	Kenwood USA Corporation	0.0%	245.00	Fixed	KCT-22A Extended Control Head Cable (up to 100 ft. max.) Note: Please specify exact length at 1ft. increments when ordering. Caution: Extended control head cables exhibit a loss in speaker audio power to the control heads. For either type control head (KCH-10/11), it is recommended that the 13W

KENWOOD PROFESSIONAL SERVICES

DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
					audio output modification be implemented to drive extended cable runs and a KES-5 external speaker be used. Refer to the service manual pg. 15-17 for 13W modifications. Installing new radio firmware (hex files) via the KPG-44D software nor checking the firmware "checksum" is not possible through an extended control head cable. A standard KCT-22 cable of 25 ft. or less should be used when this has to be done. Normal KPG-44D radio parameter programming is possible at extended lengths. Must order Labor Code# L-865
Modification	Kenwood USA Corporation	0.0%	75.00	Fixed	KCT-23A-K2 Two Conductor 75/110W High Power DC Cable (2 Conductor: 1x23 ft. positive, 1x23 ft. negative; AWG #10) Note: This cable substitutes for the ff: DC Cables: --> KCT-23M2 75/110W Dash Mount DC Cable: 4 Conductor: 2x10 ft. positive, 2x10 ft. negative --> KCT-23M4 75/110W Remote Mount DC Cable: 4 Conductor: 2x23 ft. positive, 2x23 ft. negative Must order Labor Code# L-866
Modification	Kenwood USA Corporation	0.0%	25.00	Fixed	Jumper foil for SB to pin 14 of accessory connector for 90-series mobile (Ref. 90-Series Mobile Service Manual, page 17/18) Must order Labor Code# L-867
Modification	Kenwood USA Corporation	0.0%	25.00	Fixed	Modify 90series mobile for KCT-18 Must order Labor Code# L-883
Modification	Kenwood USA Corporation	0.0%	10.00	Fixed	External speaker modification for 90-series mobile Control head (13W) Must order Labor Code# L-891
Modification	Kenwood USA Corporation	0.0%	17.00	Fixed	R640 mic input modification for 90-series mobile Must Order Labor Code# L-903
Modification	Kenwood USA Corporation	0.0%	75.00	Fixed	Modify 90-series mobile Dual Band (Single Head) for Pyramid Vehicular Repeater Must Order Labor Code# L-921
Modification	Kenwood USA Corporation	0.0%	75.00	Fixed	Modify 90-series mobile Dual Band (Dual Head) for Pyramid Vehicular Repeater Must Order Labor Code# L-922
Modification	Kenwood USA Corporation	0.0%	10.00	Fixed	External Speaker modification for TK-5*10 mobile Control Head (13W) Note: All Basic Control Head (KCH-14M) configurations are shipped with the control heads 4W internal speaker enables.

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
					Order L-1008 to enable the 13W external speaker output for KES-5 speaker use. This will disconnect the control heads internal 4W speaker! Must Order Labor Code# L-1008
Modification	Kenwood USA Corporation	0.0%	25.00	Fixed	Multi-Channel Encoder Modification TK-5220/TK-5320 Must order Labor Code# L-1646
Modification	Kenwood USA Corporation	0.0%	60.00	Fixed	NX-700/800/900/901 Flow Control Modification Must order Labor Code# L-1687
Modification	Kenwood USA Corporation	0.0%	N/C	Fixed	NX-220/320 KWD-MS10 Activation Must order Labor Code# L-1700
Network Level ID	Kenwood USA Corporation	0.0%	132.00	Fixed	KPG-95D/95DG(N) Network Level ID (encrypted data file) Note: Enables Trunked system programming privileges in a KPG-95DG(N)K. - Restricted Purchase Requirements - • 3-Digit HEX System ID (HSID) from SYSOP required • Must Purchase KPG-95DG(N)K (V7.0 or later) with L-989 • Kenwood ships an encrypted *.SKF file on CD ROM • Non-SYSOP entities ordering L-989 must provide verifiable written authorization from SYSOP to receive an *.SKF file. • The 16-digit Network Level License ID & 3-digit HEX HSID are securely encrypted & embedded in the *.SKF file. Must order Labor Code# L-989
Network Level ID	Kenwood USA Corporation	0.0%	158.33	Fixed	Network Level License ID for KPG-96D(N) 180-Series Programmer Must order Labor Code# L-1013
Network Level ID	Kenwood USA Corporation	0.0%	132.00	Fixed	KPG-112D(N) Network Level ID (encrypted data file) Note: Enables Trunking system programming privileges; See KPG-112D(N) Network Level ID (Trunking System Privileges) - Restricted Purchase Requirements - L-1698- KPG-112D(N) Network Level ID (Trunking System Privileges) The KPG-112D(N) only ships with a "Dealer Level License ID" which permits Conventional FM and P25 Conventional radio programming privileges only. For radios with the P25 Trunking option installed, trunked/network programming privileges require a "Network Level License ID" generally reserved ONLY for the system owner or the system owners authorized operators/service centers. Purchasing the KPG-112D(N) Network Level License ID will require 1) Written

KENWOOD PROFESSIONAL SERVICES					
DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
					verifiable authorization from the systems owner/operator. 2) The 3-digit hexadecimal P25 System ID from the system owner/operator. 3) Purchase of a L-1698 : KPG-112D(N) Network Level ID option. This option will include an encrypted KPG-112D(N) "System Key Data File" containing the 16-digit Network Level License ID & 3-digit hexadecimal System ID code. Must order Labor Code# L-1698
Operations and Firmware	Kenwood USA Corporation	0.0%	17.00	Fixed	Install firmware 094F (90-series mobile * and # DTMF without PTT) Note: The firmware 094F gives the 90-series mobile the ability to generate a DTMF tone from the * and # keys without pushing the PTT button. Must Order Labor Code# L-910
Operations and Firmware	Kenwood USA Corporation	0.0%	N/C	Fixed	NX-700/800 P25 Conventional Software Upgrade Must order a KWD-P25C firmware option Must order Labor Code# L-1663
Options and Firmware	Kenwood USA Corporation	0.0%	68.00	Fixed	Install PassPort® ESN / Firmware Option (1-24 qty.) Must order Labor Code# L-876
Options and Firmware	Kenwood USA Corporation	0.0%	68.00	Fixed	Install PassPort® ESN / Firmware Option (25-99 qty.) Must order Labor Code# L-877
Options and Firmware	Kenwood USA Corporation	0.0%	68.00	Fixed	Install PassPort® ESN / Firmware Option (100 qty.) Must order Labor Code# L-878
Options and Firmware	Kenwood USA Corporation	0.0%	N/C	Fixed	Immersion Option Certification (Must purchase Immersion Option Kit, KWD-IM10 separately) Must order Labor Code# L-987
Options and Firmware	Kenwood USA Corporation	0.0%	158.33	Fixed	Network Level License ID for KPG-143D(N) NX series Programmer Must order Labor Code# L-1727
Options and Firmware	Kenwood USA Corporation	0.0%	NC	Fixed	NX Series Radio MPT Firmware FIELD-UPGRADE (Must purchase KWD-NX10MPT separately) Must order Labor Code# L-1729
Options and Firmware Disk	Kenwood USA Corporation	0.0%	84.00	Fixed	Install firmware and enable NPSPAC operation in TK-980 Note: NPSPAC and PassPort capability are not available in the same firmware option. Must order Labor Code# L-889
Options and Firmware Disk	Kenwood USA Corporation	0.0%	68.00	Fixed	PassPort® ESN & Firmware disk (1-24 qty.) Must order Labor Code# L-892
Options and Firmware Disk	Kenwood USA Corporation	0.0%	68.00	Fixed	PassPort® ESN & Firmware disk (25-99 qty.) Must order Labor Code# L-893
Options and Firmware	Kenwood USA	0.0%	68.00	Fixed	PassPort® ESN & Firmware disk (100 qty.) Must order

KENWOOD PROFESSIONAL SERVICES

DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Disk	Corporation				Labor Code# L-894
Portable Radio Programming	Kenwood USA Corporation	0.0%	120.00	Fixed	TK-5400 Programming (with basic TX/RX check) Must order Labor Code# L010
Portable Radio Programming	Kenwood USA Corporation	0.0%	25.00	Fixed	TK-290/390 Programming (with basic TX/RX check) Must order Labor Code# L-804
Portable Radio Programming	Kenwood USA Corporation	0.0%	17.00	Fixed	TK-480/481 Programming (with basic TX/RX check) Must use Labor Code# L-826
Portable Radio Programming	Kenwood USA Corporation	0.0%	25.00	Fixed	TK-2140/3140 Programming (with basic TX/RX check) Must order Labor Code# L-924
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	TK-2180/3180 Programming (with basic TX/RX check) Must use Labor Code# L-963
Portable Radio Programming	Kenwood USA Corporation	0.0%	125.00	Fixed	TK-5x10 & TK-5x10G Portable Programming (Basic TX/RX check only with factory test freq.s or dealer/customer provided KPG-95D/95DG(N) data file) Must order Labor Code# L-990
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	TK-2170/3170 Programming (with basic TX/RX check) Must order Labor Code# L-992
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	NX-200(S)/300(S) Programming (with basic TX/RX check) Must order Labor Code# L-1084
Portable Radio Programming	Kenwood USA Corporation	0.0%	125.00	Fixed	TK-5220/5320 Programming (Basic TX/RX check only with factory test freq.s or dealer/customer provided KPG-112D data file) Must order Labor Code# L-1644
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	TK-2360/3360 Programming (with basic TX/RX check) Must order Labor Code# L-1678
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	TK-2312/3312 Programming (with basic TX/RX check) Must order Labor Code# L-1688
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	NX-410/411 Programming (with basic TX/RX check) Must order Labor Code# L-1691
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	NX-220/320 Programming (with basic TX/RX check) Must order Labor Code# L-1699
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	TK-2402VK/3402UK Programming (with basic TX/RX check) Must order Labor Code# L-1756
Portable Radio Programming	Kenwood USA Corporation	0.0%	37.50	Fixed	TK-2400/3400 Programming (with basic TX/RX check) Must order Labor Code# L-1757
Portable/Mobile Radio Programming	Kenwood USA Corporation	0.0%	25.00	Fixed	TK-190/TK-6110 Programming (with basic TX/RX check) Must order Labor Code# L-911

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT & REAL ESTATE SERVICES ADMINISTRATION
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

December 9, 2010

CHANGE NOTICE NO. 1
TO
CONTRACT NO. 071B0200218
(Replaces 071B7200134)
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR Northrop Grumman Systems Corporation 1840 Century Park East Los Angeles, CA 90067		TELEPHONE: Jeanette Frank (703) 272-5262
		VENDOR NUMBER/MAIL CODE
Email: Jeanette.Frank@ngc.com		BUYER/CA (517) 241-0239 Jacque Kuch
Contract Compliance Inspector: Barb Suska MSP MCOLES Maintenance and Support		
CONTRACT PERIOD: From: April 30, 2010 To: January 17, 2012		
TERMS NA	SHIPMENT NA	
F.O.B. NA	SHIPPED FROM NA	
MINIMUM DELIVERY REQUIREMENTS		
MISCELLANEOUS INFORMATION:		

NATURE OF CHANGE (S):

Effective January 18, 2011, this contract is hereby **INCREASED** by \$390,000.00 and **EXTENDED** for one year to January 17, 2012. New pricing and statement of work for this change notice are attached.

All other terms and conditions remain the same.

AUTHORITY/REASON:

Per State and vendor agreement and Ad Board approval on 12/7/2010.

INCREASE: \$390,000.00

TOTAL REVISED ESTIMATED CONTRACT VALUE: \$667,157.87



Northrop Grumman Systems Corporation
Information Systems Sector, Civil Systems Division
3975 Virginia Mallory Drive
Chantilly, VA 20151

August 16, 2010

Ms. Hermina Kramp
Michigan Commission On Law Enforcement Standards (MCOLES)
106 W. Allegan, Suite 600
Lansing, Michigan 48933

Subject: Contract 071B0200218 - Labor Rates for Year 5

Dear Ms. Kramp,

Below is Northrop Grumman's Time and Materials Labor Rates for Contract 071B0200218 to continue maintenance of the MCOLES Network system from February 1, 2011 to January 31, 2012.

Labor Rates: Not to Exceed Hourly Rates

No.	Resources	Hourly rate (\$) (not to exceed)
1	Technical Lead	\$136.11
2	Business analysts	136.11
3	System analysts	136.11
4	Programmer analysts	114.62
5	Database administrators	154.50
6	Security specialist	136.11
7	Testers	114.62
8	Technical writers	114.62
9	System Architects	165.32
10	Network Technician	136.11
11	Software Architects	136.11
12	Project assistants	165.32
13	Web developers	136.11
14	Application trainers	114.62

Additionally, this letter serves to confirm per Article 1, Attachment D, the fifth year firm fixed price is \$5,800.00 per month.

If you need any additional information on contractual or business matters, please contact me at 703-272-5262 or by email at jeanette.frank@ngc.com.

Sincerely,

Jeanette Frank
Contract Administrator

MCOLÉS Information and Tracking Network Maintenance
Contract No. 071B0200218
1-Year Extension Request
Statement of Work

Project Identification

1.001 PROJECT REQUEST

The State of Michigan (State), through the Michigan Department of Technology, Management & Budget (MDTMB) has entered into Contract No. 071B0200218 with Northrop Grumman Systems Corporation to provide application support, system maintenance, and limited design and development of any newly required components or functionality for the Michigan Commission on Law Enforcement Standards Information and Tracking Network (MCOLÉS Network).

The objective of this request is to extend the existing contract by one year through 01/17/2012 and increase the contract amount by \$390,000 to provide routine application maintenance, support and updates to meet the ongoing needs of the MCOLÉS and the public safety community. The Contractor will maintain the MCOLÉS Network application using the existing protocols established during the current contract.

1.002 BACKGROUND

The Michigan Commission on Law Enforcement Standards (MCOLÉS) was originally created by Public Act 203 of 1965 as the Michigan Law Enforcement Officers Training Council (MLEOTC) to establish mandatory selection, training, employment and licensing standards for Michigan law enforcement officers.

The Michigan Justice Training Commission (MJTC), created by Public Act 302 of 1982 was transferred, together with all its responsibilities, to the Michigan State Police/MLEOTC in 1994. This added the responsibility for oversight of the Michigan Justice Training Fund, a state-supported fund dedicated to in-service training for MLEOTC-licensed law enforcement officers.

In 1998, Public Act 237 amended P.A. 203 of 1965, renamed MLEOTC as the Commission on Law Enforcement Standards (COLES), and broadened the Commission's responsibilities to include the employment history tracking of Michigan law enforcement officers and the revocation of an officer's license under certain circumstances. This statute requires all Michigan law enforcement agencies to maintain an employment history for each employee and to report all personnel transactions in a manner prescribed by the Commission.

Executive Reorganization Order No. 2001-5 created the Michigan Commission on Law Enforcement Standards by combining the powers, functions, duties and responsibilities of the COLES and the MJTC. In addition to exercising the responsibilities transferred to it by the ERO, the MCOLÉS was given a new mandate to focus its activities in order to accomplish several specific objectives. One of these objectives was to implement a web-based information system that will allow the Commission to accomplish its goals and communicate with Michigan law enforcement organizations in a more efficient manner. The MCOLÉS Network was developed for that purpose.

The MCOLÉS Network integrates information related to seventeen specific mandated MCOLÉS functions into a single database system. The web component of the system allows the entire law enforcement community direct, secure access to critical licensing and training information for any MCOLÉS licensed law enforcement officer (past or present). Twenty-four MCOLÉS approved basic training academies also utilize the MCOLÉS Network to track the delivery of the mandated basic training curriculum and the recognition of prior training and experience program.

Client/server access to the database enables the MCOLÉS staff to immediately verify and respond to requests for enrollment, standards verification, and licensing activations.

Scope of Work and Deliverables

1.101 IN SCOPE

The scope of this contract is to provide application maintenance and MCOLÉS approved application enhancements for the MCOLÉS Network.

1.102 OUT OF SCOPE

Replacement of the MCOLES Network database system, servers, hardware and hosting are out of scope.

1.103 ENVIRONMENT

Hardware Listing

MCOLES Network Servers - All servers are maintained by MDTMB. When issues arise that may impact the performance of the application or database the Contractor will be asked as part of routine maintenance to consult with MDTMB and the MCOLES to prevent negative outcomes.

- Web Server
 - Server Name: HCS551MITNPW001
 - IP Address: 136.181.129.9
 - Model: Dell PowerEdge 1950 III
- Production Database Server
 - Server Name: HCS551MITNPD001
 - IP Address: 10.29.27.140
 - Model: Dell PowerEdge 2950
 - 156 GB dedicated SAN space
- Quality Assurance (Test) Database Server
 - Server Name: HCS551MITNPD002
 - IP Address: 10.29.27.141
 - Model: Dell PowerEdge 2950
- Application Server
 - Server Name: HCS551MITNPA002
 - IP Address: 10.29.27.160
 - Model: Dell PowerEdge 2950

Operating Systems

The MCOLES Network servers all run Windows 2003 Enterprise Edition SP2. All servers are maintained by MDTMB. When issues arise that may impact the performance of the application or database the Contractor will consult with MDTMB and MCOLES to prevent negative outcomes.

Desktop Workstations

All desktops are maintained by MDTMB. When issues arise that may impact the performance of the application or database the Contractor will consult with MDTMB and MCOLES on issues that may impact the performance of the application or database to prevent negative outcomes should that need arise. The minimum specifications for the MCOLES workstations used as MCOLES Network client PCs are as follows:

- Dell GX150
- Pentium III 133
- 256 MB SDRAM
- 20 GB hard drive
- Windows XP

Software Listing

All Oracle databases related to the applications must be maintained by the Contractor. When issues arise that may impact the performance of the servers, Contractor will work with MDTMB and MCOLES to prevent negative outcomes.

- The MCOLES Network application is an Oracle database. In compliance with DTMB standards, the MCOLES Network is being upgraded to Oracle 10g. The data is stored on an Oracle 10g database. The client server application was originally built using Oracle 6i forms and reports. The MCOLES Network client server application is being converted to Oracle forms and reports 10g. The MCOLES Network web application uses Oracle 10g AS Application Server.
- The system accesses FileNET imaged documents using a MCOLES Network viewer component that was developed using Visual Basic.
- Document imaging is conducted by the MCOLES using FileNET Image Services. The documents are housed on the Storage Area Network (SAN) and are accessed through either

the FileNET client or the MCOLES Network Viewer. The tool used to view documents is dependent upon a staff member's responsibility and need to access.

Developer Tools Listing

The following software and tools are being used for the operation and maintenance of the MCOLES Network. The Contractor must annually update this list of tools. (Updated June, 2010)

MCOLES Network Client Server Application

The client server application currently runs the following version of Oracle forms and reports:

- Oracle Developer 6i tool set - Version 6.0.8.25.2
 - Oracle Forms Builder Forms 6.0.8.25.2 (Forms 6i, Patch 16)
 - Oracle Report Builder Reports 6.0.8.25.0 (Reports 6i, Patch 16)

The MCOLES Network client server application is being converted to the following version of Oracle forms and reports:

- Oracle Developer Suite 10g – Version 10.1.2.0.2
 - Oracle Forms Developer – Version 10.1.2.0.2
 - Oracle Reports Developer – Version 10.1.2.0.2
- Oracle Designer 9i– Version 9.0.4.5.6
 - Oracle Repository – Version 4.0.12.96.16
 - Oracle Database 10g Enterprise Edition – Version 10.2.0.1.0
- PL/SQL Developer – Version 8.0.3.1510
- SQL *Plus – version 10.1.0.4.2

MCOLES Network Viewer Application

- Visual Basic 6.0 (SP5)
- Microsoft Visual Studio - VB98

MCOLES Network Web Application

- JDeveloper 10.1.3.5.0 - JDeveloper also includes some libraries and software that can be used separately. Examples are
 - Oracle JDBC Driver
 - OC4J
- CVS for NT – Version 1.11.1.1.3
- Apache Ant 1.6
- Java 2 Standard Edition Version 5

Oracle Database Server

- Oracle Database 10g Enterprise Edition Release 10.2.0.4.0
- Operating System: Microsoft Windows Server 2003 R2 Enterprise Edition Service Pack 2

Oracle Internet Application Server

- Oracle Application Server 10g Release 2 (10.1.2)
- Operating System: Microsoft Windows Server 2003 R2 Enterprise Edition Service Pack 2
- Microsoft Internet Explorer: 6.0.2900 SP2

Adherence to Standards

All standards for the MCOLES Network programming are based on the *MCOLES Network Updated System Requirements*. This document contains development and maintenance standards for:

- The database, tables, and data elements
- The graphical user interface
- PL/SQL coding standards
- Documenting changes
- Naming conventions

The Contractor must continue to adhere to the development and maintenance standards. Any modifications to these standards must first be approved by MCOLES.

For each MCOLES Network application area, there are separate subdirectory structures that comprise the associated library of source code components (including Oracle Forms, Reports, Libraries, and Menus).

Database

The MCOLES Network database is an Oracle 10g database.

Network

MCOLES staff accesses the MCOLES Network application (client server and web) via the state's Lansing Area Network (LAN) when in the office and accesses the web application via the internet when in the field. End users access the MCOLES Network using the internet via the web server housed in the state's DMZ. The Contractor accesses the MCOLES Network application and servers via the Contractor VPN.

Firewall

- There are three firewalls:
 1. MDTMB DMZ firewall allowing access to the web application on the web server.
 2. Data must then pass through the MDTMB DMZ firewall into the
 3. MSP firewall before passing through to the database servers and the SAN.
- Firewalls 1 and 2 are maintained by MDTMB. Firewall 3 is maintained by MSP.

Locations

All MCOLES Network servers are housed in the Michigan State Police segment of the Lake Superior Hosting Center in Lansing. All are maintained by MDTMB.

Current Workload Profile

The MCOLES Network is a fully operational production system. During the course of its operation it has required, average, approximately 10-15 hours of routine monthly maintenance as described in section 1.104.B. – Application Maintenance Requirements.

The MCOLES also maintains a database of issues identified by staff and end users of problems and inefficiencies. These issues will be identified and administered using the System Change Request (SCR) process described in section 1.104.F.

The MCOLES also is called upon to work on specific initiatives to address changes in enabling legislation, administrative rules, policies and procedures or business practices. The contractor will work on these issues as directed and prioritized by MCOLES based on a Statement of Work (SOW) agreed to by both the MCOLES and the contractor.

Disaster Recovery Requirements and Priorities

Contractor must respond immediately with the appropriate number and type of staff to address application and security problems. Contractor must work with MDTMB and MCOLES to define timeframes within which certain types of problems need to be addressed.

Browser

The web system was built to the State of Michigan standard of Internet Explorer 5.0. The contractor agrees to support the current system. The contractor may be called upon to assist the MCOLES with any potential access problems caused by a newer version of Internet Explorer.

Reporting tools

The Contractor must work with the MCOLES to develop reports needed by the MCOLES for reporting to the legislature, the public and the law enforcement community.

Interfaces

There are a number of interfaces used to import data from other sources and to export data to other applications.

Interface Title	Source	Destination	Description
Reading & Writing Test Results	Performance-Based Selection, LTD	MCOLES Network	Nightly interface loads test results to data exchange gateway for MCOLES to retrieve
Licensing Exam Results	Performance-Based Selection, LTD	MCOLES Network	Scheduled interface will load test results to the data exchange gateway for MCOLES to retrieve
Annual LED Registration	MCOLES Network	MCOLES FoxPro LED Database Application	Annual LED registration and expenditure data from the MCOLES Network web staging tables for review and determination of funding eligibility in FoxPro app
In-Service Training from e-learning Sources	MCOLES Approved e-learning Contractors and programs	MCOLES Network	Pre-defined interface will allow Contractors to submit in-service training attendance to MCOLES

Classes of users

- The MCOLES Network is accessed by a broad range of MCOLES constituents across the public safety community.
- The user's skills range from totally computer literate to barely able to log on.
- Some users will only access the system once a year for the annual registration while others will make daily or weekly entries.
- Our user groups consist of:
 - Internal users
 - MCOLES Network team
 - MCOLES staff
 - Authorized external users
 - training and testing site staff
 - law enforcement agency staff
 - in-service training providers
 - Contractor's MCOLES Network team

Information regarding the State's information technology architecture and standards for hardware, database applications, network hardware and monitoring tools, identity management authentication and development tools may be found at <http://www.michigan.gov/dit/0,1607,7-139-34305--,00.html>

1.104 WORK AND DELIVERABLES

Contractor must provide Deliverables/Services and staff, and otherwise do all things necessary for, or incidental to, the complete and successful maintenance and on-going support of the MCOLES Network system, providing the functionality required for the State's business operations, in accordance with the requirements as set forth below.

A. General Requirements

1. The MCOLES retains all control over the timing of development and the priority given varying components.
2. The MCOLES retains the right to change priorities for development or cancel development based on budgetary constraints and legislative changes.
3. Contractor will work with the State to implement the maintenance plan, developed under the existing contract, as approved by the MCOLES and MDTMB.

B. Application Maintenance Requirements

1. Conduct routine database maintenance per the agreed upon plan.
2. Provide day-to-day support for database record cleanup that may be caused by:

- a. Hung web acceptance (data caught in transition between the web application staging tables and the database tables).
 - b. Corrupted data rejected by the system
 - c. Hung data created by system aborts
 - d. Dropped internet sessions
 - e. System failure or interruption
3. Research and install Oracle patches on the MCOLES Network web server that are required to prevent security breaches.
 - a. Trouble shoot application malfunctions.
4. Restart web server and/or Oracle services as required.
5. Transfer application and/or database to new hardware components as required:
 - a. Migrate application software
 - b. Migrate data
 - c. Integrate existing components with new components.
6. Consult with MDTMB staff as required to ensure proper system configuration for efficient and accurate system operation.
 - a. Potential hardware upgrades
 - b. SAN space allocation
7. Update system documentation incrementally as system updates occur
 - a. Technical manuals
 - b. Database schema
 - c. System requirements
 - d. Detailed design
 - e. System change reports
 - f. Testing incident reports
8. Provide a methodology for the identification of the need and notification of the MCOLES when 3rd party software upgrades are required. The purchase of any upgrades of 3rd party software will be the responsibility of the State.
9. Maintain the functionality and data integrity of the existing interfaces in order to continue the complete and accurate flow of information.

C. Minor Application Enhancement Development Requirements

1. The contractor will provide functionality problem resolution and minor application enhancements based on the existing SCR procedure. This process is described in detail in section 1.104.F.
2. Minor application enhancements and problem resolutions are defined as needed work on existing functionality or minor enhancements that can be captured, documented and responded to using the existing SCR process and does not necessitate Joint Application Design sessions to establish the criteria and parameters for the work.

D. Major Application Enhancement Development Requirements

1. The contractor will provide a methodology to estimate the cost for individual components, identified by the MCOLES in Statement of Work documents, based on the number of hours of work so that financially sound decisions to proceed can be made by the MCOLES. Time used to create an estimate of work is not chargeable.
2. The work statements for deliverables may include the following as appropriate:
 - a. A description of the deliverables to be provided
 - b. Target dates and critical paths for the deliverables
 - c. Identification of roles and responsibilities, including the organization responsible
 - d. The labor, equipment, materials and supplies required to be provided by the State in meeting the target dates established in the Preliminary Implementation Plan.
 - e. Process to finalize requirements
 - f. Internal milestones
 - g. Task durations
3. Contractor must conduct Joint Application Design (JAD) sessions if and when the MCOLES is ready to move forward with the below listed items, or any not yet identified items.

- a. Upgrade the system to enable the collection and tracking of medical data according to HIPAA standards.
 - b. Upgrade the web acceptance component of the system to allow for better review, approval and denial of incoming information.
 - c. Upgrade the system, where necessary, to interface with the upgraded FileNET software.
 - d. Upgrade the system to incorporate the use of Crystal Reports software to generate ad hoc reports.
 - e. Upgrade the system to include multiple 'boards' as specified by new legislation, rules, policies or revisions to the MCOLES business practices.
 - f. Upgrade the LED web module to make it more efficient and user friendly.
4. Develop and implement application enhancements necessitated by new legislation, rules, policies or revisions to the MCOLES business practices.
 - a. Identify application upgrades
 - b. Identify appropriate software versions or components to improve existing functionality
 - c. Design system changes required to implement upgrades including:
 - o Configuration
 - o Customization
 - o Modification
 - o Interfaces
 - o Data conversion
 - o Integration
 - o Testing
 - d. Develop code to implement system upgrades
 - e. Test and implement revised code
 5. Application knowledge transfer (training)
 - a. Contractor to MCOLES operations staff
 - b. Contractor to MCOLES and MDTMB technical staff
 - c. Contractor to MCOLES Train the Trainer
 6. Contractor must upgrade all Oracle services to version 10g based on the approved MCOLES Network Oracle 10g Upgrade Plan.
 - a. The Contractor must implement the plan to upgrade all of the MCOLES Network's existing forms and reports to become compliant with Oracle 10g. This is an MDTMB/Enterprise Security requirement to better secure the web component of the MCOLES Network application and the web server housed in the DMZ.
 - b. The first deliverables will be documentation of the protocols that have been implemented by the contractor to:
 - o Ensure compliance with all security standards
 - o Train new contractor staff as needed
 - o Provide routine web and database application maintenance
 - c. Contractor must work with MCOLES to finalize the project plan to include delivery dates for the immediate deliverables
 - d. Contractor and MCOLES acknowledge that delivery dates may be delayed as a result of components or services to be provided by other vendors or by MDTMB. The parties will mutually agree to adjust the delivery dates if such delays occur.

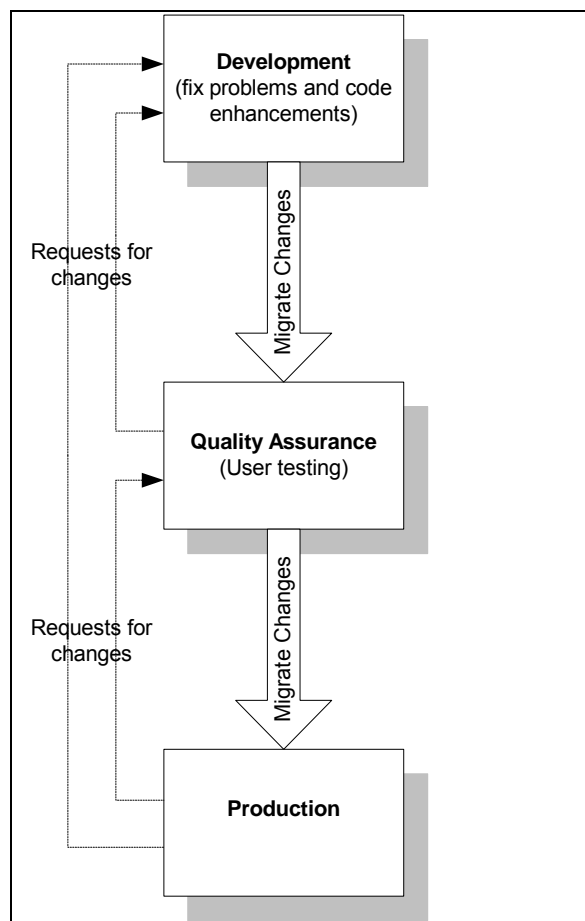
E. Technical Requirements MCOLES Network Database

1. **Environment** - The MCOLES Network production and quality assurance environments exist on MCOLES Oracle servers supported by MDTMB on behalf of the MCOLES. A separate development environment will exist on a Contractor server. The Oracle database instances for these environments are as follows:
 - Production – MPRD.MSP.NET
 - Quality Assurance –MITNDV.MSP.STATE.MI.US
 - Development – to be identified by the contractor

Each area consists of the MCOLES Network database structure and a separate subdirectory structure that comprises the associated library of source code components (including Oracle Forms, Reports, Libraries, and Menus).

- a. The contractor must maintain the **Development** area on Contractor equipment, to consist of several separate databases that mirror the production area in data definition, but contain small amounts of scrambled data.
 - i. This area will be used by the Contractor's development staff to code upgrades, fix modules, and conduct unit testing.
- b. The **Quality Assurance** (QA) area provides a higher-level testing area that can be used by the Contractor's application support staff via the Contractor VPN and the MCOLES staff for testing upgraded or new program modules, as well as for conducting field training for end users. This area resides on MCOLES equipment and is maintained by MDTMB and MCOLES.
 - i. The Contractor must assist the MCOLES in migrating changes from development to QA. The QA area is protected from the ongoing changes that continually take place in the development area. Program modules will be more thoroughly tested in the QA area before final migration to the production environment.
 - ii. Contractor must provide the support of this area in accordance with a routine maintenance plan which must be submitted as a deliverable within 30 days of execution of the contract.
- c. The contractor is responsible for all application-related maintenance, as well as operating system and server configuration. MDTMB is responsible for maintenance of the servers and operating system.

The day-to-day business of the MCOLES takes place in the **Production** area, which is maintained by MCOLES and MDTMB on MCOLES equipment and is supported by the Contractor under this agreement. The MCOLES also carries out the operations tasks associated with the production application.



MCOLES Network Development, Testing, and Production Environments

2. **General System Requirements** - Contractor must provide services meeting the following requirements, and to ensure the system continues to meet the following requirements
 - a. The system provides auditing of all transactions including the user ID, the date and time, and the computer from which the data was accessed or modified.
 - b. The system ensures that confidential information is protected, both when stored and as it transits the network.
 - c. The system enables efficient licensee management and controls to reduce the manual effort required.
 - d. The system allows workers assigned by an agency, officers, training sites, training vendors or investigators to have appropriate access to data without making copies of file material or manually transferring data onto forms.
 - e. The system efficiently integrates training, testing, investigation, standards screening and training vendor reporting information.
 - f. The system provides the ability to select from a repository of predefined letters and notices and either merge address information from the system or enter address information into the letter. The system is able to record in the case record what letters or notifications were sent and the date they were sent.
 - g. The system provides for the support of system interfaces and integration necessary for the coordination of services and for the elimination of paperwork and duplication of data collection and data entry.
 - h. The system creates and maintains an information base that links an individual with all transactions related to law enforcement training and licensing from entry into the system through retirement to any post-retirement requirements that may be linked in the future.
 - i. The system provides for the careful and full protection of all clients' rights to privacy and confidentiality through effective internal and external security controls that meet or exceed all legal requirements and official regulations on the subject.

- j. The system provides a query and report structure that satisfies eight basic levels:
 - i. MCOLES internal administrators and managers
 - ii. Regional training delivery site administrators and managers
 - iii. In-service training vendors, administrators and managers
 - iv. Legislator requests
 - v. Field representative requests
 - vi. Agency requests
 - vii. Clerical staff
 - viii. Licensing workers
- k. The system automatically produces routine and official reports required by the Commission, Governor or legislature, as well as by state or federal statutes and regulations.
- l. The system contains on-line edits and warnings designed to identify and avoid data inconsistencies.
- m. The system provides immediate, searchable and relevant on-line automated access to user guides or web sites containing needed information, e.g. MCOLES web site containing policies and procedures.
- n. The system provides automated flow in logical progression of data and windows to enhance worker orientation and familiarization of the system.
- o. The system is able to export form letters to word processing applications.
- p. The system operates uniformly as a single system throughout the state. All pertinent functionality in the system is made available to all MCOLES employees and end users based on their individual responsibilities and needs.
- q. The system standardizes forms.
- r. The system uses consistent methods to enter, update, and retrieve data. Users who understand one function of the system and feel comfortable navigating through it will feel comfortable navigating through all functions.
- s. The system has a logical navigation order for each web screen to aid end users.
- t. The system supports data entry processes by a series of edits, which provide integrity, validation, and consistency of format throughout the system.
 - i. The system is capable of "freezing" any entered data according to established business rules.
- u. The system provides the capability to confirm or undo changes, as well as prompt the user, when required, that data have not been properly entered.
- v. The system maintains a centralized, computerized training registry with an automatic search capability.
- w. The system has a help file system that contains keyword search capabilities (an index) and a full glossary of all terms and contents with hyperlinks.
- x. The system allows full functional access by the end users, 24-hours-a-day, 7-days-per-week basis, taking into consideration approved system maintenance windows and backup requirements.
- y. The system allows export of reports to spreadsheet and database applications.
- z. The system refreshes screen functionality automatically.
- aa. The system works within the existing agency and State technical environment.
- bb. The system is designed to eliminate data redundancy as much as possible and to prevent unnecessary movement through fields during data entry.
- cc. The system includes a data control and security component that prevents editing of all narrative text once it is considered finalized and saved in the system.
- dd. The system has the ability to capture, categorize, and associate scanned documents with a case or person.
- ee. The system provides the ability to exchange selected records and data elements with other applications according to specifications provided by the State, including, but not limited to, applications maintained by:
 - i. Federal, state, local, tribal and specialty law enforcement agencies.
 - ii. Federal, state, local, tribal and specialty law enforcement officers.
 - iii. Michigan Judicial Institute.
 - iv. Michigan Department of Corrections.

- v. Michigan Attorney General
- vi. MCOLES-approved basic training delivery sites
- vii. MCOLES-approved in-service training providers
- viii. Prosecutors
- ix. Emergency telecommunications operator training Contractors
- x. MCOLES-approved testing facilities
- xi. Michigan State University Virtual University and/or other MCOLES-approved online training providers
- ff. The system shall provide the ability to record, store, and display error messages received or produced as part of the transaction log.
- gg. Hardware and software licenses conform to the State IT or agency-specific standards approved by MDTMB.
- hh. All products (source code) and services produced for this Contract become the property of the State.

3. Business Requirements

- a. **Location of Work** – The work is to be performed, completed, and managed at the following locations:
 - i. A development site for coding and testing of application changes and upgrades must be provided by the Contractor at the Contractor site for development, functional testing and quality control prior to distributing the component to the state Quality Assurance site for UAT.
 - ii. Initial implementation for the purposes of user acceptance testing (UAT) will be on the MCOLES Network Quality Assurance server housed by MDTMB.
 - iii. Final implementation of the production software will be on the MCOLES Network production site also housed at the Data Center Operations site in the secondary complex.
 - iv. The State **will not** provide the following resources for the Contractor's use on this project: Work space, clerical support, desk, telephone, pc workstation, printer, access to copier and fax machine, or parking.
- b. **Security and Confidentiality** - The contractor must submit all staff to a background check by the Michigan State Police including, but not limited to, a fingerprint and criminal history check.
 - i. No unauthorized Contractor staff will be allowed access to the MCOLES Network either at the Contractor's development site or the state hosted production and quality assurance sites.
 - ii. The State will retain administration of data access security, including application security (granting of access, resetting of passwords, definition of password syntax rules, monitoring of access violation reports, etc.).
 - iii. The State will administer all user security profiles.
 - iv. MDTMB will oversee and coordinate security issues relative to the Contractor and State agencies.
 - v. The contractor cannot use the customized version of the MCOLES Network as a sample for sale or distribution without MCOLES written permission.
 - vi. The Contractor is responsible for the security of the MCOLES Network application software.
 - vii. The contractor is responsible for the research and implementation of patches to the MCOLES Network Oracle operating system and databases as required by MDTMB Enterprise Security.
 - viii. Confidentiality of Data and Information
 - 1. All financial, statistical, personal, technical and other data and information relating to the State's operation which are designated confidential by the State and made available to the Contractor in order to carry out this Contract, or which become available to the Contractor in carrying out this Contract, will be protected by the Contractor from unauthorized use and disclosure through the observance

- of the same or more effective procedural requirements as are applicable to the State.
2. The identification of all such confidential data and information, as well as the State's procedural requirements for protection of such data and information from unauthorized use and disclosure will be provided by the State in writing to the Contractor. If the methods and procedures employed by the Contractor for the protection of the Contractor's data and information are deemed by the State to be adequate for the protection of the State's confidential information, such methods and procedures may be used, with the written consent of the State, to carry out the intent of this section.
 3. Data transferred to the Contractor's test environment will be scrambled such that confidential or identification information is not available to Contractor staff working in their test database.
- ix. **Security Plan**
The Contractor must comply with the plan for monitoring and maintenance of data and system security

c. Training - (limited to new enhancements)

- i. The Contractor must provide a training plan, including an estimate of how many hours needed so that MCOLES may schedule a training site for training and advise staff to set aside for training.
- ii. The Contractor must provide training on upgrades and modifications of the system that effect functionality to system administrators in a manner appropriate for the change at no additional cost to MCOLES.
- iii. The Contractor must provide all system training manuals, training plans and other documentation to the State as requested by MCOLES.
- iv. Training materials provided will become the property of the State.

d. Documentation

- i. The Contractor must provide written/electronic documentation of changes completed in response to problems identified by the MCOLES on the applicable System Change Request (SCR) form.
- ii. The Contractor must document all changes in the source code allowing for the MCOLES and MDTMB database administrators (DBA's) to view and understand changes
- iii. The Contractor must provide documentation in State-approved electronic format of upgrades/modifications of the applications that affect end-user functionality (i.e. updates to the data element dictionary, the entity relationship diagrams, and the database schema, etc.).
- iv. The Contractor must provide documentation updates for all appropriate manuals as additional capabilities or improvements are made to the system.
- v. The Contractor must submit the following documentation annually in State-approved electronic format:
 1. System-wide documentation and specifications
 2. Baseline end-user training manuals to be used as a basis for "User Manuals" and online help
 3. Installation procedures
 4. Configuration documents sufficient for configuration maintenance purposes
 5. Specification documentation
 6. Production migration (where applicable)
 7. Data conversion (where applicable)

e. Warranties

- i. The Contractor must provide a warranty provision for the products and services resulting from this Contract commencing on the first day following formal written acceptance by the State.
- ii. The Contractor must warranty any new development necessitated by business requirement changes or legislative changes causing a re-write of existing code.
- iii. The Contractor must warranty any new code necessitated by the upgrade to Oracle 10g or similar fixes.
- iv. The warranty period is one (1) year.
- v. During the warranty period, Contractor must correct any element of the system which fails to perform in accordance with the requirements of this Contract and/or published specifications.
- vi. Corrective action by the Contractor may include, but is not limited to, redesigning, repairing or replacing the nonconforming element.
- vii. The Contractor must warrant the functioning of the system against design flaws that are detected after UAT and implementation that could not be detected in the Quality Assurance environment due to the limited amount of access and load.
- viii. The warranty shall provide that all hardware, software and firmware is free from imperfections in design and free from any and all defects and is able to perform continuously and satisfactorily under normal operating conditions.
- ix. Imperfections and defects include the insertion of malware, "virtual Easter eggs" (messages, graphics, sound effects, or an unusual change in program behavior, that occur in a program in response to some undocumented set of commands, mouse clicks, keystrokes or other stimuli), or back-door access designed into the code.
- x. The one year warranty following acceptance must include all parts and labor . Coverage and response time for remedial maintenance requests during the warranty period must be as defined in the remedial maintenance requirements of this section.
- xi. The Contractor must assign all applicable third party warranties for deliverables to the State.

4. Operational Requirements

1. All system support must be coordinated through the MCOLES
2. All system maintenance requiring the shutting down of the MCOLES Network must be conducted after 5 pm Eastern time or on weekends with the prior consent of the MCOLES
3. The MCOLES Network will be online 24/7
4. The Contractor will provide support to address any non-security related problems with the system between the hours of 7 am and 10 pm Eastern time.
5. The Contractor will provide thorough, ongoing technical system support.
6. The Contractor must provide proactive system maintenance to ensure efficient processing and prevent loss of processing time and data.
7. The Contractor must provide online technical system documentation.
8. The Contractor must provide telephone technical support with 15/5 support.
9. The Contractor must provide e-mail technical system support with a maximum 24-hour turnaround on questions.
10. The Contractor must provide on-site technical support upon the State's request.
11. The Contractor must provide an escalation process for technical support.
12. The Contractor must provide the MCOLES system administrators with telephone access to the technical lead or technical support engineers for assistance in resolving system problems, with immediate response between the hours of 7am and 10 pm Eastern time.
13. The Contractor must respond to the telephone requests for maintenance service, within two (2) hours, for calls made at any time during the hours noted above.
14. The Contractor, with the State's approval, will provide Routine maintenance off-site via telephone or secure connection to the system.
15. The Contractor's maintenance program will commence immediately upon contract initiation.
16. All maintenance will be performed by qualified personnel who are trained in the use of the identified tool and are thoroughly familiar with the system.

17. Any recommended change to the functionality or database schema must be approved by the MCOLES **prior to** any changes being committed for testing.
18. The Contractor must provide backup maintenance resources.
19. The Contractor must provide disaster recovery assistance.
20. The Contractor must provide for escalation of maintenance issues to ensure critical issues are resolved.
21. The Contractor must provide remote diagnostic capabilities.
22. The Contractor must provide one point of contact to report system malfunction whether malfunction is due to software or is of unknown origin. The Contractor will be responsible for providing the appropriate remedy.
23. For the first year and all subsequent Contract years, the Contractor must provide the following services for the system, commencing upon initiation of this contract:
 - a. Error Correction. Upon notice by the State of a problem with the system (that can be verified), the Contractor shall use reasonable efforts to correct or provide a working solution for the problem.
 - b. The Contractor must notify the State of any material errors or defects in the deliverables known, or made known to the Contractor from any source during the Contract term that could cause the production of inaccurate or otherwise materially incorrect, results.
 - c. The Contractor must initiate actions, as may be commercially necessary or proper to effect corrections of any such errors or defects

5. Payment Restrictions

- a. The state will not pay for time necessitated by an inexperienced developer corrupting code or disabling functionality.
- b. The state will require an estimate for larger repairs prior to work commencing. Payment for time spent researching a fix will be limited to the hours of technical work.
- c. The state will not pay for Contractor overhead costs for a Contractor project manager or accountant creating estimates, or proposals, or preparation and detailing of invoices for payment.

F. Application Support Procedures

1. **Adherence to Standards** – Contractor must adhere to all standards for the MCOLES Network programming as detailed in the *MCOLES Network Updated System Requirements*. This document contains development and maintenance standards for:
 - The database, tables, and data elements
 - The graphical user interface
 - PL/SQL coding standards
 - Documenting changes
 - Naming conventions

For each MCOLES Network application area, there are separate subdirectory structures that comprise the associated library of source code components (including Oracle Forms, Reports, Libraries, and Menus).

The following specifies the methodologies, procedures, and control techniques that the Contractor must follow to ensure quality control and interact with the MCOLES.

- a. Overview of Work Flow – **The contractor is responsible for software application support for the MCOLES Network.** Software **support** includes, but is not limited to, the following tasks and activities:
 1. Operational Support: Contractor staff will assist MCOLES system administrators with the day-to-day operation of the application. Other efforts that could fall under this category of work could include 'knowledge transfer' activities for MCOLES Network staff, for example providing MDTMB DBAs consultation about possible changes to the MCOLES Network environment being considered by MCOLES.

2. Interface Support: Assistance in this area includes analysis of transaction modifications, testing of transactions created by interface applications in the MCOLES Network, or participation in design sessions for contributing agencies (e.g. prosecutors, 911 operators, reserve officers, etc.), or to explain the transaction processing as currently designed.
 3. Address/Resolve Components of Existing Functionality: This category of support will be utilized to fix the functionality of existing modules due to changes in MCOLES business mandates, rules or policies. Examples of work for this category of support/maintenance could include adding additional fields to screens, relaxing or tightening of edits for modules, and updates to code supporting system functionality. It could also include improvement of the automated business process flows being supported in the baseline to meet the actual production business flows that are evolving with the MCOLES Network implementation.
 4. Change Control Management and Support: The MCOLES will perform all tasks related to tracking problems (their priority and resolution), preparing materials for change control meetings, as well as planning, scheduling, and conducting change control meetings.
 5. Problem Resolution Investigation and Support: This category of maintenance support is utilized for resolving problems in the MCOLES Network. These activities include discussion and analysis. The production of written recommendations where changes are substantial may be required.
 6. Data Issue Resolution: The contractor must provide maintenance support to correct data issues that arise from incorrect use of the system as well as data corrupted by problems with the system and data hung in web acceptance.
- b. Software enhancements are requests for changes in system functionality dictated by changes in business practices or changes mandated by legislative or administrative rule changes. Examples are upgrades to existing screens, interfaces, reports and back-end procedures. Activities involved with software upgrades include discussion and analysis, as well as production of written recommendations, and estimates to perform the work being requested (when applicable).
 - c. All software maintenance and enhancements will be logged into the **MCOLES Problem Tracking Database** system, or another tracking system as identified by MCOLES and MDTMB, for assignment of a work priority and resolution and final acceptance tracking purposes by the MCOLES.
2. **Software Support Work Flow** – Contractor must provide management and control of the MCOLES Network software maintenance and enhancement activities necessary for the Contractor's application support staff to adequately carry out work assignments approved by the MCOLES.
 - a. **Minor System Enhancements** - The procedures for requesting, administering, and accomplishing the MCOLES Network software support activities reported by users are described as follows:
 - i. **Problems Reported to the MCOLES Network Supervisor.** The MCOLES Network supervisor receives a problem. The problem may be conveyed verbally, by electronic mail, fax or mail. The MCOLES Network team evaluates the problem and determines whether it is a potential software problem, a program policy problem, or a user training issue. A potential software problem is reported on a System Change Request (SCR) and tracked in the **MCOLES SCR Tracking Database, or another tracking system as identified by MCOLES or MDTMB**, with a priority designation and is referred to the Contractor's Technical Lead. The priority designations are:

- **System Down** – requires an immediate response by the Contractor. This will include the response of a DBA where a system malfunction has occurred necessitating a recovery of data or a system restart which cannot be performed by MDTMB. This category may also apply when multiple users are impacted by the same problem or during a peak period leading to deadlines. This category will require the Contractor to specifically define a method for contacting a technical support person even during a Contractor's off hours (.e.g. if Contractor is on Mountain time and the MCOLES needs assistance at 8 am Eastern time). **All System Down problems shall be resolved, or a plan of action to resolve them shall be completed within 24 hours from the time the problem was first reported to the Contractor.**
 - **Critical** – Used when a problem arises that MCOLES has no other ability to work around. Critical SCR's will take precedence over all other prioritized SCR's at the direction of MCOLES. Critical issues include those affecting one specific agency that, if it occurred to multiple agencies of the same type, would otherwise be classified as System Down.
 - **High** – Issues that address ongoing functionality and must be fixed to allow MCOLES and their constituency to properly operate the system. These will be prioritized by the MCOLES Network Team in conjunction with the Contractor's technical lead.
 - **Medium** – Issues that are of a less critical nature and impact. These can also be completed simultaneously to a higher priority item if appropriate after consultation with the MCOLES.
 - **Low** – Non or improperly functioning components but other acceptable means of addressing the problem exist. These will not be addressed until MCOLES designates their priority.
1. When issues are prioritized as Critical or System Down, the Contractor must provide an immediate response, or an estimated timeline for a response to enable the MCOLES to provide notice to its constituency of a problem via the web page.
 2. Only prioritized System Change Request (SCR), pre-approved by the MCOLES, will be worked on. When extensive research or system change will be required to address a problem identified via SCR, the technical lead will notify the MCOLES Network Supervisor of these preliminary findings to allow the MCOLES an opportunity to verify that the resources necessary to address the issue are available and should be expended at that time.
 3. In all instances of providing notification to the MCOLES Network Supervisor, the MCOLES Network Project Manager and Specialist must always be copied to ensure that prompt response and action is taken by the MCOLES in the event the MCOLES Network Supervisor is not available or is doing MCOLES field work at any given time.
- ii. **Contractor's Technical Lead Reviews and Assigns Problem Report** - The Contractor's Technical Lead reviews the problem report, estimates the effort required to resolve the problem, if requested, and performs the work or assigns the request to another member of the Contractor's maintenance team based on the skills required and the priorities established by the MCOLES.
 - iii. **Technical Lead or Other Contractor Staff Resolves Problem** - The Technical Lead and other Contractor staff will manage their workload based on the priorities assigned to their various problem reports.
 1. Upon receipt of a problem report, the Contractor's staff member assesses the problem and determines the resolution.
 - a. If more information is required, the Contractor's staff member will communicate with MCOLES Network Supervisor to obtain the necessary information.

- b. The most knowledgeable MCOLES Network staff member will be listed as the reporting individual on the cover sheet of the SCR document. Direct communication with that individual is an acceptable method of resolving an issue if approved by the MCOLES Network Supervisor. If further input or a wider knowledge base is needed, the MCOLES Network Supervisor will bring additional resources into the discussion.
 2. If a software change is required, the Technical Lead or other Contractor staff member modifies the appropriate program modules, tests and documents the test results using the necessary printouts and screen-prints to demonstrate the validity of the changes.
 - a. Notice will be sent to the MCOLES Network Supervisor documenting what was changed and what should be tested.
 - b. Where possible, screen-prints produced during testing should be forwarded to the MCOLES to guide user acceptance testing.
 3. In all cases, when a problem is resolved the resolution and an explanation of what was done must be entered on the SCR document. This will then be returned to the MCOLES Network Supervisor as the written explanation to the problem resolution. This will ensure that the MCOLES Network staff is kept informed of changes that are made and recorded in the source code.
- iv. **Technical Lead Requests Walkthrough (where applicable)**
 1. Upon successful testing by the user, the Technical Lead may present the changes in a technical walkthrough if necessary.
 2. The Technical Lead schedules a walkthrough with the MCOLES Network Team.
 3. If the results of the walkthrough are not approved, the Technical Lead must arrange for the necessary fixes documented at the walkthrough. This will greatly reduce the likelihood of changes causing unintended consequences.
- v. **MCOLES Reviews and Tests the Software Change**
 1. The MCOLES Network Supervisor coordinates testing of the change on the Quality Assurance site. The Contractor must provide technical support for the testing.
 2. Upon completion of testing, the MCOLES Network supervisor returns any point sheets identifying problems or issues encountered during testing along with the actual test results (if desired by the Contractor) to the Contractor's technical lead.
 3. If the software does not pass UAT, the problem report is returned to the Technical Lead
- vi. **Problem Report Referred to Technical Lead**
 1. Once a program module has successfully gone through the walkthrough and testing process, the Technical Lead is responsible for obtaining the client signature approval.
- vii. **Software Changes are Migrated to Production Environment**
 1. Non-emergency software changes will be migrated to the production environment on a scheduled basis.
 2. Emergency migrations will occur at the first opportunity in accordance with MCOLES Network procedures.
 3. When the migration is complete, the Technical Lead will ensure that the MCOLES Network has been returned to a fully operational state and then inform the MCOLES Network Supervisor that the module(s) was migrated to the production environment so the changes can be monitored.
 4. The Technical Lead will be responsible for ensuring that all components of the system are returned to proper production functioning and then notify the MCOLES Network Supervisor that the problem has been resolved.
 5. The Technical Lead will also ensure that all necessary notations and explanations of changes have been documented and filed in the appropriate place.

viii. **Reporter of Problem is Notified of Fix**

1. The MCOLES Network Supervisor notifies the originator of the problem report that it has been fixed.
2. After verification that the change is also working properly in the production environment, the MCOLES Network Supervisor closes the problem report in the MCOLES SCR Tracking Database.

b. Production Recovery Problems - The workflow for the resolution of the MCOLES Network production recovery problems differs from that of user-reported problems. The timely resolution of these problems is critical to ensure that the system is available to MCOLES Network users the following workday. The procedures for addressing production recovery problems are as follows:

i. Problem is Detected and Reported by the MCOLES during off hours Upon detecting an unexpected result from the MCOLES Network, the MCOLES Network Supervisor will attempt to determine the nature and source of the problem. If the problem is software-related, the MCOLES Network Supervisor contacts the Contractor's Technical Lead or person responsible for the MCOLES Network on-call support.

ii. On-Call Support Person Investigates

1. The on-call support person investigates the problem and determines if the problem is software-related or not.
2. If it is software-related, the on-call support person determines whether or not the software changes need to be made immediately in order for the system to be returned to an operational status.
 - a. When necessary, the on-call support person will consult with other members of the Contractor's MCOLES Network Team.
3. If the problem is not software-related or if the on-call support person determines that the software change does not need to take place immediately, the on-call support person writes a problem report and proceeds with any other actions necessary to return the system to an operational status.

iii. On-Call Support Resolves Problem

1. If it is decided that the software change must be made, the on-call support person makes the software change and tests it as much as is practical. The on-call support person then makes one of two choices: to arrange for the software change to be migrated to the production environment or to continue running the production job out of the test module.
2. If a migration to the production environment is necessary, the on-call support person notifies the MCOLES Network Supervisor or System Administrator who reported the problem and contacts the person responsible for migrations to perform this function.

iv. Problem is entered into the MCOLES TIR Tracking Database

1. The reporting MCOLES Network Supervisor records the problem and its resolution in the MCOLES SCR Tracking Database.
2. The information is also e-mailed to the Contractor's Technical Lead.

v. Technical Lead Checks the Software Change

1. The following business day, the Technical Lead reviews the software change and the accompanying documentation.
2. If the software resolution does not pass inspection, the problem report is returned to the Contractor's staff member who will make the changes necessary to fix the problem.

c. Major Software Enhancement Work Flow

All changes to the MCOLES Network system are controlled by the MCOLES to ensure that MCOLES priorities are met and that system integrity is maintained. All changes and upgrades are subject to review and prioritization by the MCOLES Network Team.

- i. Changes to the MCOLES Network system are initiated through the MCOLES Network Supervisor. The following steps are followed for all software upgrades.
1. **MCOLES Network Steering Committee Reviews the Change Request.** The MCOLES Network Steering Committee meets regularly to review new and outstanding change requests.
 2. If the MCOLES Network Steering Committee requests it, the Contractor must provide a detailed analysis of the impact of the requested change. An impact analysis will be written on requested changes that may have a significant impact on the system.
 3. The impact analysis includes parts or all of the following (as appropriate):
 - a. A functional and technical description of the impact on specific components (screens, reports, and processes)
 - b. Time estimates for analysis, development, testing, and Quality Assurance
 - c. Implementation and conversion plans, as appropriate
 - d. Changes to manuals (such as the internal MCOLES Network User Manual, user guides and On-Line Help)
 - e. Ramifications of proceeding with the changes
 - f. Sign-off section (MCOLES Project Manager)
 - g. Other relevant information
 4. **Technical Lead Assigns Approved Changes**

Once the MCOLES Network Project Manager approves proceeding with an enhancement and signs the impact analysis (if any), and the MCOLES Network Supervisor assigns the work a priority for development, the Technical Lead performs or assigns the work to the appropriate Contractor staff member for completion.
 5. **Technical Lead or Other Contractor Staff Completes the Upgrade**
 - a. The Technical Lead modifies or assigns a staff member to the appropriate program change or upgrade and documents the test results using the necessary printouts and screen prints to demonstrate the validity of the changes.
 - b. Notice will be sent to the MCOLES Network Supervisor documenting what was changed and what should be tested.
 6. **MCOLES Reviews and Tests the Software Change**
 - a. The MCOLES Network supervisor coordinates MCOLES testing of the upgrade on the Quality Assurance site. The Contractor must provide technical support for the testing.
 - b. Upon completion of testing, the MCOLES Network Supervisor returns any point sheets identifying problems or issues encountered during testing along with the actual test results to the Technical Lead.
 - c. If the software does not pass user acceptance testing, a problem report is returned to the Technical Lead.
 7. **Technical Lead May Request a Walkthrough**
 - a. The Technical Lead may do a technical walkthrough.
 - b. The Technical Lead schedules a walkthrough with the MCOLES Network Supervisor. This can reduce the likelihood of changes causing unintended consequences.
 - c. If the walkthrough is not approved, the Technical Lead must arrange for the necessary changes documented at the walkthrough.
 8. **Software Changes are Referred to Migrator**

Once a program module has successfully gone through the walkthrough process, and client signature approval is obtained for migration, the Technical Lead passes the migration request to the appropriate migrator.

9. Software Changes are Migrated to Production Environment

- a. Software changes will be migrated to the production environment on a scheduled basis.
- b. Emergency migrations will occur at the first opportunity in accordance with MCOLES procedures.
- c. When the migration is complete, the Technical Lead will ensure that the MCOLES Network has been returned to a fully operational status and will inform the MCOLES Network Supervisor that the module(s) was/were migrated to the production environment so the changes can be monitored.

10. Requester of Changes is Notified of Completion

The MCOLES Network Supervisor notifies the originator of the request that the upgrade has been completed. Once it is verified that the change is functioning as intended in the production environment the MCOLES Network Supervisor closes the report in the MCOLES Network SCR Tracking Database. .

3. Setting Enhancement and Change Priorities: The MCOLES Network Steering Committee

- i. The responsibility of assigning priorities to all work done under this agreement lies with the MCOLES Network Steering Committee and/or the MCOLES Network Supervisor. The Contractor will work only on approved problems and changes, and in the order determined by the MCOLES.
- ii. No upgrade or changes will be made to the MCOLES Network without prior authorization from the MCOLES Network Steering Committee unless the MCOLES Network Supervisor determines that an emergency requires that a change or modification be made to the MCOLES Network application software.

4. System Change Documentation

- i. The Contractor must document all changes reflecting new procedure/process capabilities and options in the MCOLES Network. Program fixes are documented in a program change comment block located in the top of the source code.
 - 1. The program change block notes the SCR number, the name of the Contractor's staff member implementing the change, the date of the changes, and a brief description of the change.
 - 2. Any important program change is also commented at the point of change in the program.
 - 3. The change is also briefly delineated in the response to the SCR sent by the Technical Lead to the MCOLES Network Supervisor.
- ii. The Contractor must maintain system documentation for the life of each MCOLES Network module. System documentation for each module may include
 - 1. Module Overview
 - 2. Detailed Functional Specifications
 - 3. Special Navigation Specifications
 - 4. Database Triggers
 - 5. Database Views
 - 6. Detailed Data Specifications
- iii. All changes are reflected in the *MCOLES Network Detailed Design Document*, Appendix C
- iv. Updated copies of documentation will be delivered to the MCOLES annually at a minimum or as requested. Documentation will be submitted as electronic documents with the exception of the database charts, which will be provided in printed form.

5. Testing and Quality Assurance - The Contractor's quality assurance procedures are designed to ensure that the functionality of newly developed changes and upgrades are complete and accurate, and that the changes are implemented in the production environment in a systematic and controlled manner.

a. Contractor's Quality Assurance

- i. The Contractor's Technical Lead, all of the Contractor's staff, and ultimately the MCOLES Network Supervisor perform quality assurance activities on the MCOLES Network application prior to production migration.
 1. The Technical Lead provides an overall quality assurance check of technical and functional correctness and adherence to documentation standards.
- ii. Changes to the MCOLES Network are subjected to an integrated series of tests to verify the accuracy of maintenance and change work.
 1. Depending on the extent of the software change, the following types of testing are performed: unit testing, function/system testing, and MCOLES acceptance testing.
- iii. Responsibility for unit testing program changes rests primarily with the Contractor's staff making the change.
 1. The test results should reflect the correct execution of every major path in a program, the correct results from every calculation, and the correct flow of control within the online application or batch job stream.
 2. Test results must be provided for the program changes.
- iv. The Contractor's staff members will also function test and system test the module to ensure the new or corrected functionality works with other modules. These test results must be provided for the program changes to be migrated to the MCOLES Network Quality Assurance environment for user testing and then for migration to the production environment.
- v. Depending on the complexity and critical nature of certain modules and/or changes, the Contractor's Technical lead may provide an overall quality assurance to check the accuracy of the business functions.
- vi. The Contractor's quality assurance process ensures that:
 1. The change appropriately addresses the problem reported or upgrade requested.
 2. The change does not introduce new functional or technical problems into the MCOLES Network including those discovered that may not have been reasonably expected during testing within the context of the process.
 3. If a change introduces new functional or technical problems it will be identified and fixed or backed out of the system if it cannot be fixed in a reasonable timeframe.
 4. The change meets the software and documentation standards defined for the MCOLES Network.
 5. The change does not result in unnecessary added computer costs, batch processing time, or degraded online response time.
 6. The change is accomplished in accordance with the approved coding standards.
 7. Rigorous testing is conducted on all new code.
 8. Programs are migrated into the Quality Assurance environment and, when approved, into the production environment.
 9. Program performance and resource utilization reviews are implemented and plans are developed for performance problem programs.
- vii. All MCOLES Network programs will follow the standards defined in the *MCOLES Network Updated System Requirements*. Standards for naming elements, cross-referencing paragraphs and indentation of paragraphs for readability are enforced.
- viii. The creation of numerous data elements in an application can easily lead to chaos in determining the meaning of data. Shared, reusable data elements will be used, where possible, to reduce redundancy. The enforcement of consistently-named data element abbreviations keeps the look of the code consistent to all Contractor staff and allows training to become easier. These element names will ensure quick recognition of code by the Contractor's staff.
- ix. Program walkthroughs will be conducted for technical and functional completeness and resource efficiency.
 1. Rigorous testing will be performed on new modules.

2. Changed code for a program fix or upgrade will be evaluated for its placement in the system and for the introduced complexity. The affected logic paths and new test conditions will need to be identified for testing.
 3. Documentation regarding affected logic paths and new test conditions will be provided to the MCOLES Network Supervisor.
- x. Before a module can be migrated to the Quality Assurance area, the Contractor's staff must prepare a migration request form.
1. For a new program, the Contractor's staff must also include the program folder.
 2. A copy of the problem report is included for a program fix.
 3. The problem report and changed source code guide the testing process and should be shared with the MCOLES Network Supervisor to also guide testing in the Quality Assurance area.

b. MCOLES Quality Assurance

- i. In addition to the internal quality assurance performed by the Contractor's staff, system changes are subject to MCOLES quality assurance. The purpose of this quality assurance is to verify that the software changes function correctly in the context of the business flow.
- ii. Depending on the extent of a given change, the MCOLES Network Supervisor may take one of the following quality assurance actions:
 1. Review the submitted test documentation performed by the Contractor's staff member responsible for the changes.
 2. Test the upgraded and/or changed module(s).
 3. Assemble an MCOLES acceptance testing team to test the changes.
- iii. Depending on the results of the review and testing of the system changes, the MCOLES Network Supervisor will approve or reject the changes. Accepted changes will be migrated to the production environment on the next scheduled production migration. Rejected changes will be returned with comments to the Technical Lead who forwards the problem to the appropriate staff member.

Roles and Responsibilities

1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES

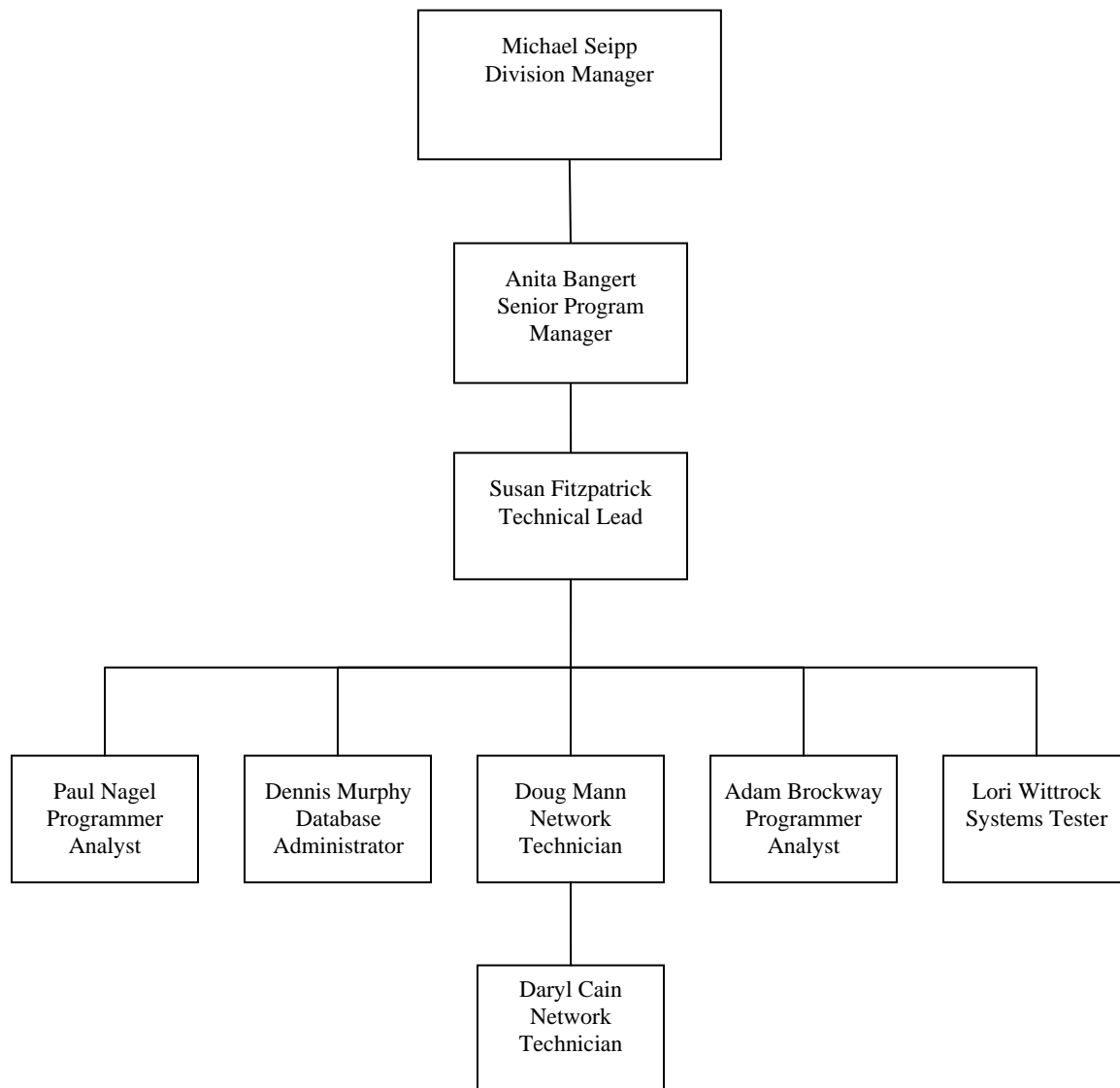
The organizational structure and job descriptions for each position must be maintained. All staff must be identified by name and title. Resumes supporting each assigned staff member's qualification for the job assigned must be on file with MCOLES. There must be specific explanation of how the experience documented in each resume will meet the needs of the MCOLES. Any new staff member must be identified by name, date-of-birth, work location and address and function and approved by the MCOLES process before billable hours can be worked. Any team members who have access to data and/or system files must be screened and approved by MCOLES to the required security standards prior to being allowed access to data.

Application Support Team

The contractor proposes technical staff to support the continued growth of the Michigan MCOLES Network with the following skills:

- i. Oracle 10g DBMS, the database management software
- j. Oracle Enterprise Manager 10g, the application server software
- k. Oracle Forms 10g, the language used to build and modify client server screens
- l. Oracle Reports 10g, the language used to build and modify reports
- m. Oracle PL/SQL, the language used to build and modify backend procedures, packages, and functions
- n. JDeveloper, the language used to build and modify web pages.

Contractor's organizational structure, reporting structure, resource names, and position descriptions are addressed in this section.



• **Exhibit 1 Application Support Team Organization**

The Technical Lead will have the authority to assign work to the support team members for the MCOLES Network project. However, since some of the team members are only assigned to the project on a part-time basis, the following table defines the reporting structure and chain of command for each person assigned to the MCOLES Network Application support team:

Name	Full or Part Time Employee	Employment Status: P = Permanent	Supervisor this Person Reports to	Supervisor Reports to	Work Location	Time Zone
Susan Fitzpatrick	Full	P	Anita Bangert	Michael Seipp	Helena, MT	MST
Adam Brockway	Full	P	Anita Bangert	Michael Seipp	Helena, MT	MST
Paul Nagel	Full	P	Juli Mattfeldt	Denise Patterson	Helena, MT	MST
Lori Wittrock	Part	P	Jane Fournier	Michael Seipp	Helena, MT	MST
Dennis Murphy	Full	P	Sue Deyo	Michael Seipp	Helena, MT	MST
Jack Russell	Full	P	Dennis Murphy	Sue Deyo	Helena, MT	MST
Doug Mann	Full	P	Sue Deyo	Michael Seipp	Helena, MT	MST
			Stephanie			
Daryl Cain	Full	P	Johnson-Carson	Sue Deyo	Helena, MT	MST

•
Project Team responsibilities are defined as follows:

Technical Lead –The Technical Lead is responsible for all software changes, either maintenance or enhancements, made to the MCOLES Network application. The Technical Lead serves as the single point of contact for the Contractor, and interacts directly with the MCOLES Network Supervisor. The Technical Lead develops or reviews estimates of work and proposed schedules to assist MCOLES with setting priorities for systems and programming requests, and directs and coordinates the technical resources in the completion of such work requests. The Technical Lead is responsible for reviewing and assigning problem reports and enhancements ensuring the timely, complete and correct development, testing, documentation and implementation of system changes, version control and configuration management as the only team member designated as key personnel there must at all times be a trained, designated backup identified and screened for security.

Systems Analyst – The Systems Analyst is responsible for performing analysis, design, programming, documentation, and testing activities as assigned; managing a prioritized workload of problem reports and enhancements; maintaining program documentation; reporting on task status; and providing on-call support.

Programmer Analyst – The Programmer Analyst assists with or is responsible for performing analysis, design, programming, documentation, and testing activities as assigned; managing a prioritized workload of problem reports and enhancements; maintaining program documentation; reporting on task status; and providing on-call support.

Systems Tester – The Systems Tester is responsible for ensuring the quality of software solutions by identifying appropriate and robust testing scenarios, developing test plans, and conducting testing. The Tester may have some involvement during the entire lifecycle of a project in order to ensure a depth of understanding of MCOLES business needs and project requirements. The Systems Tester will perform testing activities as assigned, managing a prioritized workload of problem reports and enhancements, maintaining program documentation, and reporting on task status.

Database Administrator – The Database Administrator is responsible for maintaining the production database. All application support related to Oracle databases and the MCOLES network functioning including web-related components of the production database are included. The Database Administrator will also be responsible for maintaining the Quality Assurance database located in Lansing. The Database Administrator is responsible for day-to-day coordination of MCOLES Network database activities with MCOLES Network application staff, including the migration of changes for testing and production. The Database Administrator will also have a primary role in planning and implementation of the Oracle 10g conversion.

Network Technician – The Network Technician is responsible for maintaining the MCOLES Network web components and web server. The Network Technician assists with resolving server or other network-related problems and may be involved in discussions regarding the impacts of upcoming changes.

Help Desk – The Contractor Help Desk will be the emergency point of contact for reporting MCOLES Network problems. The help desk staff will receive the call and contact the key MCOLES Team member previously identified as the technical lead. The technical lead will make decisions and assignment to address the issue. This service will be provided between the hours of 8:00 am and 10:00 pm Eastern Time, Monday through Friday excluding holidays. The toll free number is 1-866-850-1556.

		Total Months of Experience					
Name	Role on MCOLES Network Contract	IT	Oracle Forms and Reports	Web	Oracle DBA	Network	MCOLES Application
Susan Fitzpatrick	Technical Lead	271	150	4			75
Adam Brockway	Programmer Analyst	28		16			12
Paul Nagel	Programmer Analyst	177	132	81			41
Lori Wittrock	Systems Tester	311	48	128	128		1
Dennis Murphy	Database Administrator	363			363		80
Jack Russell	Database Administrator	312				72	36
Doug Mann	Network Technician	167				122	30
Daryl Cain	Network Technician	281	50	124	16		36

• **Exhibit 3 Application Support Team Total Experience**

The contractor must notify, in writing (email, fax or letter), the MCOLES Network Supervisor when identified staff will be unavailable for any extended period of time. Contractor must also identify staff that will serve as backup for the absent identified staff. All backup staff must be screened for compliance with the MCOLES security requirements in advance of beginning work in a backup capacity.

Contractor Staff Identification & Change Procedures

The contractor will originally identify all staff, including those who may serve in a backup role, and will request changes in personnel through the following process:

- o. Letter – requesting approval, delineating the chain of command, describing their experience and stating their status
- p. Resume – detailing MCOLES Network experience or other applicable experience, area of focus, amount of training/orientation to MCOLES Network, who currently on staff conducted the training, and the reason for the staff change
- q. Signed fingerprint card and information sheet – facilitating the approval of access rights
- r. Access documentation – specifying the type of access to the MCOLES Network servers the individual will need for the creation of user accounts.
- s. Full time or part time designation.
- t. Employee or contractor designation.
- u. Estimated hours available per month.
- v. Identification of current staff member being replaced, if applicable.

1.202 STATE STAFF, ROLES, AND RESPONSIBILITIES

The MCOLES Network Team will consist of members of the MCOLES as identified below. The MDTMB will be responsible for the State's infrastructure and will work together with the MCOLES and the Contractor in maintaining the MCOLES Network infrastructure and responding to security, hardware and software issues that are server related and outside the scope of the Contractor's responsibilities.

MCOLES Network Project Manager – The MCOLES Network Project Manager is responsible for ensuring that all development is consistent with existing system operations and that all proposed system development is consistent with the laws, administrative rules, policies and procedures of the MCOLES. It is the responsibility of the MCOLES Network Project Manager to inform the Executive Director of the MCOLES of any MCOLES Network or MDTMB related issues and to obtain input from the MCOLES management team on recommendations and funding. The project manager is also responsible for the approval of contract expenditures and ensuring the completion of all the daily paperwork required by MDTMB to continue the project.

In addition, the MCOLES Project Manager will also be responsible for ensuring the following services are provided:

- State facilities, as needed
- Coordination of State resources necessary for the project
- Coordination between various external Contractors
- Communication between different State departments/divisions (IT-Networking, Integrated Services, Administration, Human Resources, Accounting, Administration etc.)

- Milestone acceptance sign-off
- Resolution of project issues
- Escalation of outstanding/high priority issues
- Approval and utilization of change control procedures
- Regular and ongoing review of the project to confirm that it meets original objectives and requirements
- Documentation and archiving of all important project decisions
- Assignment of MCOLES resources for project meetings, training and special project related assignments

MCOLES Network Supervisor – The MCOLES Network Supervisor is responsible for ensuring on a day-to-day basis that all changes, fixes, and development done on the MCOLES Network system are consistent with the direction provided by the MCOLES Commission through its strategic plan initiatives and its rules, policies and procedures.

The MCOLES Network Supervisor is also responsible for developing appropriate training materials for both internal and external MCOLES Network users. The MCOLES Network supervisor will also coordinate user participation with the MCOLES Network effort, establish priorities, resolve issues, and work with the Contractor's Technical Lead on a day-to-day basis for both application enhancement and maintenance activities. The MCOLES Network Supervisor is the intermediary for gathering information and decisions from the MCOLES Network Project Manager on policy and procedural matters affecting the MCOLES Network. The MCOLES Network Supervisor guides the evolution of the system by controlling system changes. This is done through reviewing and documenting requested changes, interacting with the Contractor's Technical Lead, bringing issues to the MCOLES Network Steering Committee and coordinating user testing of changes to the MCOLES Network.

MCOLES Network Specialist - The MCOLES Network Specialist is the MCOLES staff member responsible for ensuring the day-to-day operation of the MCOLES Network system. The MCOLES Network Specialist will oversee the line staff involved in the day-to-day operation of the MCOLES Network and provide them training and guidance. The MCOLES Network Specialist will work directly with the Section Manager of the Licensing Services Section in the establishment of security agreements, and policies and procedures for the operation of the MCOLES Network system. The Network Specialist also works directly with the Network Supervisor and Project Manager on all MCOLES Network related issues.

MCOLES Network Steering Committee – The MCOLES Network Steering Committee is made up of representatives from the MCOLES based on their knowledge of business practices and responsibilities. The MCOLES Network Project Manager serves as the chair of the MCOLES Network Steering Committee. In addition to the MCOLES Network Project Manager, the Steering Committee will include the MCOLES Network Supervisor, MCOLES Network Specialist, the Section Manager of the Licensing Services section and a representative of the MCOLES Standards Compliance Section. Others may be included as needed. The steering committee reviews change requests submitted by the MCOLES Network Supervisor and determines the priority of requests.

The MCOLES Network Steering Committee will also provide the following services:

- Approve changes to the project schedule
- Authorization for modifications to the scope, resources, and budget of the project
- Maintenance of senior management commitment to the project
- Final arbitration on proposed changes that significantly affect the business interests of the MCOLES.

The MCOLES Management Team will represent the sections and will provide the vision for the business design and how the application shall provide for that vision. They shall be available on an as needed basis and will be led in discussion and decision making by the chair of the MCOLES Network Steering Committee. The MCOLES Management Team will be empowered to:

- Resolve project issues in a timely manner
- Review project plan, status, and issues

- Resolve deviations from the project plan
- Provide acceptance sign-off for large or controversial changes or enhancements
- Utilize change control procedures
- Ensure timely availability of State resources

Issues shall be escalated for resolution from level 1 through level 4, as defined below:

- Level 1 – MCOLES Network Supervisor
- Level 2 – MCOLES Network Project Manager
- Level 3 – MCOLES Network Steering Committee
- Level 4 – MCOLES Senior Management

In addition, the following State personnel/resources may be required at stages of the project. The Contractor must make every effort to provide the MCOLES manager with advance notice of when these services may be required. It will be the responsibility of the MCOLES project manager to obtain needed services including:

- MDTMB Systems Analyst
- MDTMB Application Administrator
- User Implementation Coordinator
- MDTMB Network Administrator
- MDTMB Database Administrator
- Remote access to test database environment

MDTMB shall provide a Contract Administrator whose duties shall include, but not be limited to, supporting the management of the Contract.

1.203 OTHER ROLES AND RESPONSIBILITIES

None

Contract Management

1.301 CONTRACT MANAGEMENT

A. Orientation Meeting

1. **Ten (10)** calendar days from execution of the Contract, Contractor will be required to schedule an orientation meeting to discuss the content and procedures of the Contract.
2. The meeting will be held in Lansing, Michigan, at a date and time mutually acceptable to the MCOLES and the Contractor.
3. The State shall bear no cost for the time and travel of the Contractor for attendance at the meeting.

B. Performance Review Meetings

1. The State will require the Contractor to attend meetings **semi-annually** to review the Contractor's performance under the Contract.
2. The meetings will be held in Lansing, Michigan, at a date and time mutually acceptable to the MCOLES and the Contractor.
3. The State shall bear no cost for the time and travel of the Contractor for attendance at these meetings.

1.302 REPORTS

Reporting formats must be submitted to the MCOLES Network Program Manager for approval within **30** business days after the effective date of the contract resulting from this RFP. Once both parties have agreed to the format of the report, it shall become the standard to follow for the duration of the contract including:

- Weekly Project status
- Updated project plan
- Summary of activity during the report period
- Accomplishments during the report period
- Deliverable status
- Schedule status
- Action Item status

- Issues
- Change Control
- Repair status
- Maintenance Activity

Priority and Status Meetings

The MCOLES Network Supervisor will plan, schedule, and conduct a MCOLES Network priority and status meetings as needed. These meetings provide an opportunity for the MCOLES and the Contractor to monitor progress and address issues related to problem determination and resolution.

Usually, status meetings will be attended by the

- MCOLES Network Supervisor,
- Contractor's Technical Lead, and
- Others as needed determined by topic.

Management Tools

The Contractor must use the same set of tools and techniques utilized in the Development phase of the MCOLES Network as control mechanisms to deliver quality services that meet user requirements and expectations while keeping the application support activities on schedule.

Responses to MCOLES Written Requests

Written requests from the MCOLES are typically requests for unusual or irregularly scheduled activities. These requests originate from the MCOLES Network Supervisor and are submitted to the Contractor's Technical Lead.

The Contractor's Technical Lead will review the written request and arrange for one of the following actions to take place:

- The request is forwarded to an application support team member who satisfies the request within five (5) days.
- A written estimate of the time required to satisfy the request and an estimated completion date is returned to MCOLES within ten (10) days (if applicable).
- The Contractor's Technical Lead advises MCOLES within five (5) days that the request cannot be satisfied.
- The Contractor's Technical Lead advises MCOLES within five (5) days of a date on which one of the above responses will be made.

Application support will be requested, documented, and responded to by the Contractor in compliance with the predefined SCR procedure.

The Contractor will report progress to the MCOLES Network Supervisor with copies to the MCOLES Network Project Manager and the MCOLES Network Specialist, when system work is being done.

Project Management

1.401 ISSUE MANAGEMENT

During the course of a system development effort or IT project, it is inevitable that issues will arise periodically. Such issues must be dealt with quickly and efficiently to mitigate their effect on the project. Many such issues can be addressed at the project management level, and others must be escalated. Issue resolution is most successful as a team effort. Issues are handled best if they are documented and remain visible until their resolution. Northrop Grumman will document and track issues as they arise.

If an issue cannot be resolved at the project level, it will be elevated to executive management within customer organization and Northrop Grumman for resolution. Elevating the issue to a more senior level within the respective organizations has many benefits. First, and most desirable, is that the project staff can continue to work together on the daily tasks without the potentially disruptive nature of unresolved

issues. Second, the most important issues remain visible at the Customer and Northrop Grumman executive levels until they are resolved.

An Issue Resolution Request (IRR) will be completed documenting the nature of the issue, impact of the issue, required response date, person responsible for issue resolution, and recommended response, as appropriate. The issues will be reviewed at status meetings and addressed in monthly status reports. The issue will be reviewed weekly until resolution is reached.

Issue Resolution Requests will be tracked using Issue Resolution Request Logs maintained by the Northrop Grumman Project Manager, or another tracking mechanism as identified by MCOLES and MDTMB. The logs will be attached to a monthly status report and will be discussed at status meetings.

1.402 RISK MANAGEMENT

A risk is an unknown circumstance or event that, if it occurs, may have a positive or negative impact on the Contract. Risk management generally involves (1) identification of the risk, (2) assigning a level of priority based on the probability of occurrence and impact to the project, (3) definition of mitigation strategies, and (4) monitoring of risk and mitigation strategy.

The Contractor must create a risk management plan. A risk management plan format shall be submitted to the State for approval within twenty (20) business days after the effective date of the contract. Once both parties have agreed to the format of the plan, it shall become the standard to follow for the duration of the contract. The plan must be monitored and updated bi-weekly, or as agreed upon. The risk management plan will be developed in accordance with the State's PMM methodology and the PMBOK® (Project Management Institute).

The contractor must define risks identified as being significant to the success of the project. Include how you would propose to effectively monitor and manage these risks, including reporting of risks to the State.

The contractor employs a process of identifying issues to mitigate risks. This process includes taking a top-level approach for risk mitigation defined during risk assessment and defining detailed plans to reduce or control each project risk. Risk management components are presented in the following table.

Component	Description
Risk Identification	Identify specific risks.
Risk Severity	Determine the consequences of risk occurrence.
Risk Probability	A general assessment (high, medium, low) of the likelihood of the risk occurring.
Risk Response	The response that is chosen to address the specific risk.
Response Strategy	Specific actions to be taken if the risk becomes realized.

The contractor must apply the risk management methodology to manage risks identified by the project team. Risk documentation provides a detailed description of each risk component, including the response and response strategy associated with a risk. Risks to the successful delivery of work under the contract are addressed at status meetings where the risk response and response strategy are reviewed, agreed upon and monitored.

1.403 CHANGE MANAGEMENT

Change management is defined as the process to communicate, assess, monitor, and control all changes to system resources and processes. The State also employs change management in its administration of the Contract.

If a proposed contract change is approved by the State's Project Manager and the Contract Administrator, the Contract Administrator will submit a request for change to the Department of Management and Budget, Purchasing Operations Buyer, who will make recommendations to the Director of Purchasing Operations regarding ultimate approval/disapproval of the change request. If the

DMB Purchasing Operations Director agrees with the proposed modification, and all required approvals are obtained (including State Administrative Board when applicable), the Purchasing Operations Buyer will issue an addendum to the Contract, via a Contract Change Notice. **Vendors who provide products or services prior to the issuance of a Contract Change Notice by the MDTMB Office of Purchasing Operations, risk non-payment for the out-of-scope/pricing products and/or services.**

The Contractor must employ change management procedures to handle such things as “out-of-scope” requests or changing business needs of the State related to any approved enhancement based on an approved statement of work.

The Contractor shall employ the change control methodologies to justify changes in the processing environment, and to ensure those changes will not adversely affect performance or availability.

The contractor will use a variety of control mechanisms to manage change during an enhancement that are built into the contractor’s project management methodology. These mechanisms include:

- Meeting minutes for each design session conducted
- Requirements Traceability Matrix (RTM)
- Decision/Information Requests (DIR) as needed
- Project Change Requests (PCR) as needed
- Issue Resolution Report (IRR) as needed
- Deliverable development and acceptance procedures
- Deliverable documentation including various design and planning documents

Acceptance

1.501 CRITERIA

The MCOLES Network system must be maintained according to all existing style and function standards established through the joint application design (JAD) process. Any change to look and feel or functionality must be pre-approved by the MCOLES prior to work being started and, subsequently tested by the MCOLES prior to implementation. All applicable state of Michigan and MDTMB standards for web and application development must be adhered to.

1.502 FINAL ACCEPTANCE

Final acceptance of any component or enhancement will be formally executed in writing by the MCOLES and the Contractor after all issues identified during UAT have been resolved, tested and accepted. For enhancements, payment will be made dependent upon the criteria as stated in each individual approved statement of work and accepted contractor response upon acceptance/sign off by the MCOLES and MDTMB project managers is made in writing. Final acceptance does not negate the warranty requirement specified in 1.104.E.3.e.

Compensation and Payment

1.601 COMPENSATION AND PAYMENT

The Contract is firm, fixed priced for monthly maintenance, time and materials for small scale enhancements and fixes to existing functionality and deliverable-based for enhancements requiring a statement of work and design sessions for new development. Maintenance service and minor enhancements and changes will be invoiced on a monthly basis.

1. The Contractor may be asked to provide up to 3000 hours annually for major customizations, enhancements and modifications to the system to meet new requirements identified during the term of the contract. These hours will be proposed as a firm, fixed price and will need to be supported by a statement of work mutually agreed upon by the State and contractor. If the State does not use all the hours in one year the remaining hours will roll over into the next year of the contract and be added to the 3000 hours available for that year and will be available for required changes. Payment will be made based on acceptance of each deliverable as defined in 1.502. Deliverables will be either physical deliverables (documents) or service deliverables. Physical deliverables will be invoiced upon acceptance of the deliverable.

2. The State will not pay for any travel expenses, including hotel, mileage, meals, parking, etc.
3. Payment
 - i. For maintenance and minor enhancements based on SCRs payment will be made monthly.
 - ii. For major enhancements based on a statement of work, payment will be made dependant upon the criteria as stated in each individual statement of work and accepted contractor response upon acceptance/signoff by the MCOLES and MDTMB project managers.

Additional Terms and Conditions Specific to this SOW

1.701 ADDITIONAL TERMS AND CONDITIONS SPECIFIC TO THIS SOW

- A. **Other Contractors** - The State has and/or may contract with other entities to perform technical services or provide other equipment and software to work with the items provided under this contract. The Contractor agrees to work with these other entities and provide them necessary technical information and required support to accomplish the efforts required by the contract with the State.

PRICE PROPOSAL

Contractor proposes a firm fixed price (FFP) contract for the monthly maintenance support described in our contract at a rate of \$5,800.00 per month for the period February 1, 2011 to January 31, 2012.

We also propose not-to-exceed hourly rates for additional effort to be computed on a task order, time and materials (T&M) basis. The Northrop Grumman Systems Corporation time and materials labor rates for the period February 1, 2011 to January 31, 2012 are as follows:

No.	Resources	Hourly rate (\$) (not to exceed)
1	Technical Lead	\$136.11
2	Business Analysts	136.11
3	System Analysts	136.11
4	Programmer Analysts	114.62
5	Database Administrators	154.50
6	Security Specialist	136.11
7	Testers	114.62
8	Technical Writers	114.62
9	System Architects	165.32
10	Network Technician	136.11
11	Software Architects	136.11
12	Project Assistants	165.32
13	Web Developers	136.11

Table 1: Summary of the Project Cost

No.	Cost Categories	Cost (\$)	Comments
A.	MCOLES Network Application Maintenance 1.104B		
	Conduct routine database maintenance per Routine Maintenance Plan	\$69,600.00	\$5,800.00 x 12 months
	Provide day-to-day support for database record cleanup		
	Research and install Oracle patches		
	Trouble shoot application malfunctions		
	Restart web server and/or Oracle services as required		
	Transfer application and/or database to new hardware		
	Consult with MDTMB staff as required		
	Update system documentation		
B.	Minor Application Enhancement Development 1.104C	\$320,400.00	Change Control Process
	Existing functionality problem resolution		
	Minor application enhancements		
	Total Project Cost	\$390,000.00	

Project Contacts:

The designated Agency Project Manager is:

Donna Park
MSP
MCOLES
Hollister Bldg
106 W Allegan
Lansing, MI 48909
517-322-1519
Fax: 517-322-5611
Email: parkd@michigan.gov

The designated DTMB Project Manager is:

Gordon Mayes
DTMB
Agency Services, DMVA/MSP
MSP HQ, 4th Floor
333 S Grand Ave
Lansing, MI 48933
517-241-2257
Fax: 517-241-2835
Email: mayesgs@michigan.gov

The DTMB Contract Administrator for this project is:

Barbara Suska
Michigan Department of Technology, Management and Budget
DTMB Purchasing Operations - Stevens T. Mason Building – 2nd Floor
530 W. Allegan Street
Lansing, MI 48933
517-335-4067

Fax: 517-241-4067
Email: suskab2@michigan.gov

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
ACQUISITION SERVICES
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

May 7, 2010

NOTICE
OF
CONTRACT NO. 071B0200218
(Replaces 071B7200134)
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR Northrop Grumman Systems Corporation 1840 Century Park East Los Angeles, CA 90067		TELEPHONE: Jeanette Frank (703) 272-5262
		VENDOR NUMBER/MAIL CODE
Email: Jeanette.Frank@ngc.com		BUYER/CA (517) 241-0239 Jacque Kuch
Contract Compliance Inspector: Barb Suska MSP MCOLES Maintenance and Support		
CONTRACT PERIOD: From: April 30, 2010 To: January 17, 2011		
TERMS NA	SHIPMENT NA	
F.O.B. NA	SHIPPED FROM NA	
MINIMUM DELIVERY REQUIREMENTS		
MISCELLANEOUS INFORMATION:		

TOTAL ESTIMATED CONTRACT VALUE: \$277,157.27

STATE OF MICHIGAN
 DEPARTMENT OF MANAGEMENT AND BUDGET
 ACQUISITION SERVICES
 P.O. BOX 30026, LANSING, MI 48909
 OR
 530 W. ALLEGAN, LANSING, MI 48933

CONTRACT NO. 071B0200218
 (Replaces 071B7200134)

between
 THE STATE OF MICHIGAN
 and

NAME & ADDRESS OF VENDOR Northrop Grumman Systems Corporation 1840 Century Park East Los Angeles, CA 90067 <p style="text-align: right;">Email: Jeanette.Frank@ngc.com</p>	TELEPHONE: Jeanette Frank (703) 272-5262 <hr/> VENDOR NUMBER/MAIL CODE <hr/> BUYER/CA (517) 241-0239 Jacque Kuch
Contract Compliance Inspector: Barb Suska <p style="text-align: center;">MSP MCOLES Maintenance and Support</p>	
CONTRACT PERIOD: From: April 30, 2010 To: January 17, 2011	
TERMS <p style="text-align: center;">NA</p>	SHIPMENT <p style="text-align: center;">NA</p>
F.O.B. <p style="text-align: center;">NA</p>	SHIPPED FROM <p style="text-align: center;">NA</p>
MINIMUM DELIVERY REQUIREMENTS	
MISCELLANEOUS INFORMATION: Estimated Contract Value: \$277,157.27	

All terms and conditions of the invitation to bid are made a part hereof.

FOR THE VENDOR: <u>Northrop Grumman Systems Corporation</u> Firm Name <hr/> Authorized Agent Signature <hr/> Authorized Agent (Print or Type) <hr/> Date	FOR THE STATE: <hr/> Signature Jacque Kuch <hr/> Name/Title IT Division <hr/> Division <hr/> Date
--	---

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

April 28, 2010

CHANGE NOTICE NO. 2
TO
CONTRACT NO. 071B7200134
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR Northrup Grumman Information Technology Inc. 2401 Colonial Drive, Floor 1 Helena, MT 59601 Jim.Arndell@ngc.com	TELEPHONE (406) 444-9401
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 241-0239 Jacque Kuch
Contract Compliance Inspector: Barb Suska MSP MCOLES Maintenance and Support	
CONTRACT PERIOD: From: January 17, 2007 To: April 30, 2010	
TERMS N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

NATURE OF CHANGE(S):

Effective immediately, this contract is hereby CANCELED and replaced with 071B0200218, due to a change in vendor FEIN number.

AUTHORITY/REASON(S):

Per vendor and agency request.

TOTAL REVISED ESTIMATED CONTRACT VALUE: \$0.00

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

October 1, 2009

CHANGE NOTICE NO. 1
TO
CONTRACT NO. 071B7200134
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR Northrup Grumman Information Technology Inc. 2401 Colonial Drive, Floor 1 Helena, MT 59601 Jim.Arndell@ngc.com	TELEPHONE (406) 444-9401
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 241-0239 Jacque Kuch
Contract Compliance Inspector: Barb Suska MSP MCOLES Maintenance and Support	
CONTRACT PERIOD: From: January 17, 2007 To: January 17, 2011	
TERMS N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

NATURE OF CHANGE(S):

Effective immediately, this contract is hereby **EXTENDED** to January 17, 2011 and **INCREASED** by \$300,000.00. All other terms and conditions remain the same.

AUTHORITY/REASON(S):

Per vendor and agency request and approval of the State Administrative Board on September 30, 2009.

INCREASE: \$300,000.00

TOTAL REVISED ESTIMATED CONTRACT VALUE: \$1,200,000.00

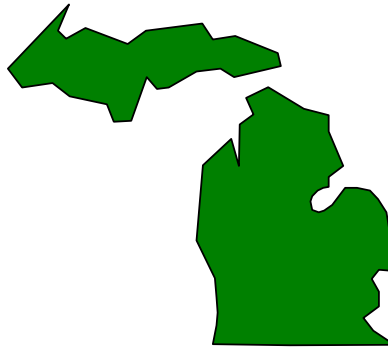
STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

February 2, 2007

NOTICE
OF
CONTRACT NO. 071B7200134
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR Northrup Grumman Information Technology Inc. 2401 Colonial Drive, Floor 1 Helena, MT 59601	TELEPHONE (406) 444-9401
	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 241-0239 Jacque Kuch
Contract Compliance Inspector: Barb Suska MSP MCOLES Maintenance and Support	
CONTRACT PERIOD: From: January 17, 2007 To: January 16, 2010	
TERMS N/A	SHIPMENT N/A
F.O.B. N/A	SHIPPED FROM N/A
MINIMUM DELIVERY REQUIREMENTS N/A	
MISCELLANEOUS INFORMATION:	

Estimated Contract Value: **\$900,000.00**



**STATE OF MICHIGAN
Department of Management and Budget
Purchasing Operations**

Contract No. [071B7200134](#)
Michigan Commission on Law Enforcement Standards Network
(MCOLES Network)

Buyer Name: Jacque Kuch
Telephone Number: (517) 241-0239
E-Mail Address: kuchj@michigan.gov



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Article 1 – Statement of Work (SOW)

1.0 Project Identification

1.001 PROJECT REQUEST

1.001 Project Request

The State of Michigan (State), through the Michigan Department of Management & Budget (MDMB or DMB) and with the assistance of the Michigan Department of Information Technology (MDIT), has issued this Request for Proposals (RFP) to obtain proposals from qualified firms to provide Application Support, System Maintenance, and limited design and development of any newly required components or functionality for the Michigan Commission on Law Enforcement Standards' Information and Tracking Network (MCOLES Network).

The objective of this contract is to provide routine application maintenance, support and updates to meet the ongoing needs of the MCOLES and the public safety community. The Contractor will maintain the MCOLES Network application using the existing protocols established during the current contract.

1.002 BACKGROUND

The Michigan Commission on Law Enforcement Standards (MCOLES), formerly the Michigan Law Enforcement Officers Training Council (MLEOTC), was created by Public Act 203 of 1965 to establish mandatory selection, training, employment and licensing standards for Michigan law enforcement officers. The MCOLES is also responsible for tracking employment transactions, training and license statuses for all law enforcement officers in Michigan.

The Commission is a fifteen member, Type I board charged with the independent responsibility of setting standards and establishing the rules and policies necessary to implement all of its mandated responsibilities. The Commission membership consists of the Attorney General, the Director of the Michigan State Police, the Chief of Police of a city with a population greater than 800,000 and twelve additional members appointed by the Governor representing the Michigan Association of Chiefs of Police, the Michigan Sheriffs Association, the Criminal Defense Bar, the Prosecuting Attorney's Association of Michigan, and four law enforcement labor groups. The Commission is supported by a 245 member staff.

The officially stated mission, values and role of MCOLES are as follows:

Mission

The Michigan Commission On Law Enforcement Standards, in partnership with the Law Enforcement Community, will select and develop law enforcement officers who are technically and functionally competent and who will perform in an ethical manner throughout their entire career.

Values

The Michigan Commission on Law Enforcement Standards believes that the people of the state of Michigan are entitled to the highest level of service from its law enforcement community. The Commission is entrusted by the people of Michigan, in partnership with the law enforcement profession, to ensure that law enforcement officers are of the highest quality.

Role

The Michigan Commission On Law Enforcement Standards has the responsibility to prepare and publish professional standards of physical, educational, mental and moral fitness. These standards shall govern the recruitment, selection, basic and in-service training and licensing of law enforcement officers under the authority as vested in the Commission in Public Act 203 of 1965, as amended.

In 1998, Public Act 237 amended the original MCOLES enabling legislation and broadened the MCOLES' responsibilities to include the employment history tracking of Michigan law enforcement officers and the revocation of an officer's license under certain circumstances. The statute requires all Michigan law enforcement agencies to maintain an employment history for each employee and to report to the MCOLES all personnel transactions in a manner prescribed by the MCOLES. The MCOLES maintains a central registry of



law enforcement officers and makes it available to agencies as they screen applicants for law enforcement employment.

The Michigan Justice Training Commission, created by Public Act 302 of 1982 as a Type II board, and its responsibilities were transferred to the MCOLES in 1994. This added the responsibility for oversight of the Michigan Justice Training Fund, a state-supported fund dedicated to in-service training for MCOLES-licensed law enforcement officers. The Michigan Justice Training Fund is generated through a percentage share of fine assessments on each civil infraction finding for a violation of the Michigan Motor Vehicle Code. Sixty percent of the training funds are distributed annually based on the results of the Annual Registration of licensed law enforcement officers by their employing agency. The remainder of the fund is distributed through a competitive grant process to eligible entities within the criminal justice system.

Between January 1 and March 1 each year, all law enforcement agencies are required to verify the status of their current, licensed law enforcement officers and report prior year's training expenditures of Michigan Justice Training funds in order to qualify for the receipt of new funds. The MCOLES must conduct this registration of all licensed law enforcement officers before the Law Enforcement Distribution (LED) to law enforcement agencies can be made. The distribution is based on a per capita basis for licensed officers registered by each eligible agency.

The changes made by Public Act 237 of 1997 and the transfer of the Michigan Justice Training Commission brought about an even greater need to design and develop an automated way of communicating with the field and enabling the MCOLES' constituents to communicate with the MCOLES. The MCOLES Network was implemented to ease the administrative burden on law enforcement agencies in meeting the selection, licensing and reporting mandates specified by statute.

The MCOLES Network has integrated information related to seventeen specific mandated MCOLES functions that were stored in seven different software applications and three hardcopy filing systems into a single, integrated system. This web-enabled system allows the entire law enforcement community direct, secure access to critical licensing and training information for any MCOLES licensed law enforcement officer (past or present). The MCOLES Network is used by all law enforcement agencies in the state of Michigan.

Client/server access to the database enables the MCOLES staff to immediately verify and respond to requests for enrollment, standards verification, and licensing activations. Twenty-four MCOLES approved basic training academies also utilize the MCOLES Network to track the delivery of the mandated basic training curriculum and the recognition of prior training and experience program.

Finally, this system is the means by which in-service training and instructor certifications are tracked for officers. This training is tied to the receipt of federal funds for law enforcement agencies, as well as funds used by the MCOLES to provide training in the areas of domestic and sexual violence, carrying concealed weapons, incident command and homeland security.

Commission Strategic Planning Process

In 2000, the Commission conducted a large scale needs analysis and planning process as the start of a comprehensive strategic planning process. The purpose was to identify the current business requirements and identify appropriate technological tools that could be leveraged to improve the Commission's way of doing business with its constituents (see Appendix A.).

A common thread that emerged throughout the needs analysis and planning process was the need to improve the level of service to constituents by streamlining existing business processes through the application of new technology. MCOLES staff and constituents alike voiced the need to automate labor-intensive business transactions and provide on-line access to information and services. That concern was articulated in the strategic planning proposal approved by the Commission on 10/12/2000.

The MCOLES Constituency Defined

The MCOLES provides direct services to over 600 state and local law enforcement agencies, public safety authorities, specialized law enforcement agencies, and Native American Tribal agencies that serve Michigan's



9.8 million citizens. Seventy-eight percent of these law enforcement agencies employ fewer than 30 officers and many are located in rural areas.

The MCOLES also regulates 24 regional law enforcement training and testing centers, approves training submitted by over 300 different in-service training Contractors, and annually registers and tracks approximately 22,000 full and part-time law enforcement officers. Approximately 12,000 applicants are tested annually through regulated pre-employment testing centers. Approximately 1,100 recruits are trained and tested at the 24 training and testing sites in the state and an additional 300 individuals from other states are trained and tested at two sites through the Recognition of Prior Training and Experience Program. The MCOLES licenses between 900–1,100 new recruits annually. Finally, the MCOLES provides information to courts, prosecutors, and defense attorneys in response to subpoenas and to members of the public making requests under the Freedom of Information Act.

The MCOLES Network was built to assist the MCOLES in managing its statutory responsibilities, responding to requests for service from the field, and conducting the necessary research and development to ensure that its training delivery system continues to produce well-trained, highly competent law enforcement officers to protect and serve the people of Michigan. In an effort to use its limited human and financial resources most effectively, the organization's leadership collaborated with the MCOLES Commission in proactive strategic planning sessions designed to improve the division's efficiency and focus. Ultimately, those planning efforts involved all Commission members, all staff members, all training directors, and a significant number of constituents who participated in "town hall" style meetings across the state.

One of the early outcomes of the planning process was an organizational re-engineering effort to use the existing staff more effectively by restructuring the division to consolidate functions and reduce duplication of effort. Significant planning time was also invested in envisioning the challenges MCOLES might anticipate in the future, so as to focus the division's resources on the most strategic priority essential to accomplishing its mission.

The core program areas of the MCOLES are its research and development of standards and training, the licensing and revocation of law enforcement licenses, and the oversight of training delivery. All of these responsibilities require documentation and tracking of information for proper implementation and regulation. Therefore, the lynchpin between the primary components of the core program areas is an integrated information system designed and developed using new technology. This is the common thread that runs throughout the MCOLES' operations. Integrating all the various pieces of MCOLES' information into one system made gathering and reporting information more efficient and accurate.

Creating a web-enabled system to take advantage of the speed and widespread communication capabilities of the Internet made the MCOLES more efficient and effective in its interactions with the profession. The MCOLES Network has allowed accredited training sites to submit basic training enrollment and completion documentation via the web. This same type of access is also available to law enforcement agencies for their use in screening candidates, requesting the licensing of a recruit and reporting personnel transactions. Finally, this system made the reporting and tracking of an officer's complete employment history, including basic training, agency affiliations, specialty certifications, in-service training and license history, easily accomplished and available to the employing agency.

During budget negotiations for FY 2006, one of the most frequently expressed concerns from the MCOLES' constituency was the loss of the MCOLES Network. With the cuts in revenue sharing experienced by local jurisdictions, the improvements and administrative cost reductions made by implementing the MCOLES Network were fundamental to allowing agencies to comply with legal mandates. If the MCOLES Network is not properly maintained and supported law enforcement agencies would be forced to return to manual reporting and communications with the MCOLES which will be more costly and far less accurate.

After the initial contract was awarded, a set of detailed system requirements was completed that delineated all of the components needed to address all of the business process improvements identified in the needs analysis and planning process. The majority of these were the basis for the initial development phase of the MCOLES Network (see Appendix B).



After conducting joint application design sessions with all constituent groups, the detailed design document was published. This detailed design provided the Contractor with the specifications for the coding of the individual components, as well as defining how multiple components had to work together to truly automate the business processes identified during the needs analysis and planning process (see Appendix C).

In addition to the detailed design document, a number of additional planning and implementation documents were developed including a conversion plan (Appendix D), a functional test plan (Appendix E), a client-server user guide (Appendix F), a web user guide (Appendix G) and process flow charts (Appendix H).

Overall Implementation Strategy

It was essential that the MCOLES implement the re-engineering of its business processes in distinct phases as resources became available. The phases were arranged in a logical progression that placed a priority on implementation of the most critical functionalities needed, both by the MCOLES and also by its constituents. The implementation approach took into account the need to continuously educate staff members and users in the field as to the need for change, the timing of the implementation process, and the advantages to be realized. All of this was accomplished through a series of “town hall” meetings and similar events that shaped expectations of the functionality and the training that was then provided to the end users.

The logistics of the implementation process also took into account the ability and willingness of users in the field to immediately implement technology solutions, such as automated forms, at a variety of levels. For that reason, it was essential to plan for an interim strategy of implementation to accommodate those users who temporarily needed to continue to send in hard copy forms for scanning.

All of this was originally taken into consideration and the following phases were identified and followed in order to control the development and implementation process. During this time frame a complete and thorough change process and development cycle process were implemented including needed documentation and a tracking database component.

Implementation Phases

Phase One: Acquisition and Implementation of RDBMS and Web Applications

The database hardware and software components, along with the web server and web application that acts as a “gateway” for the MCOLES constituents, is the heart of the system. The following were all part of phase one:

- Development of the Oracle applications (client/server and web).
- Consolidation and redesign of the MCOLES’ three existing web pages.
- Acquisition of licenses for Oracle databases.
- Acquisition of database servers and web server installed at the State Data Center Operations building.
- Conversion and migration of data from the mainframe to the MCOLES Network application (A copy of the mainframe data is maintained in an offline archive.).
- Deployment and testing of the applications within MCOLES.
- Training of MCOLES staff and constituents .

Phase Two: Integration of Automated Forms and E-Business Processes

The second phase included the acquisition and deployment of automated document management tools recommended in the needs analysis, including document imaging and web-enabled electronic forms. These tools enabled the automation of the MCOLES’ various business processes described earlier. The specifics of this phase are listed below. Due to delays caused by the procurement process not all of these components were implemented, therefore, some may still need to be added.

- Acquisition and deployment of an optical imaging scanner and imaging server
- Deployment of Silanis ApproveIt electronic signature application (NOT DEPLOYED -delayed due to lack of standards from MDIT at the time of initial implementation)
- Acquisition and deployment of a Datacard Photo ID Card system
- Deployment and integration of a FileNet document management application consisting of these FileNet Image Manager components:
 - Image Services V3.6 (server)



- Web Services V3.1
- IDM Desktop V3.2 (client)
- Capture V3.1 (imaging)
- Design and creation of automated forms for MCOLES business processes
- Creation of input screens to web-enable access to MCOLES from the field
- Conversion of paper document files to digital images
- Creation of a viewer to allow access to imaged documents from within the MCOLES Network

Phase Three: Electronic Testing and Paper Document Management

The third phase includes the acquisition and deployment of technology solutions specifically designed to web-enable electronic testing, provide web-enabled training development tools, and implement a bar coding system for paper document management. None of these components have been implemented yet. Electronic testing is being designed under the current contract and the other components are yet to be developed.

General Information

To the best of the State's knowledge, the information provided herein is accurate. However, the State does not warrant such accuracy, and any variations subsequently determined will not be construed as a basis for invalidating the contract. The State reserves the right to cancel this contract, or any part of this contract, at any time.

Contractors are advised that the State has methods, policies, standards and guidelines that have been developed over the years. Contractors are expected to follow these requirements. Specifically, the State's Project Management Methodology (PMM) must be followed. The PMM may be reviewed at

www.michigan.gov/projectmanagement.

1.1 Scope of Work and Deliverables

1.101 IN SCOPE

The scope of this contact is to provide application maintenance and MCOLES approved application enhancements for the MCOLES Network.

1.102 OUT OF SCOPE

Replacement of the MCOLES Network database system, servers, hardware and hosting are out of scope.

1.103 ENVIRONMENT

Hardware Listing

MCOLES Network Servers - All servers are maintained by MDIT. When issues arise that may impact the performance of the application or database the Contractor will be asked as part of routine maintenance to consult with MDIT and the MCOLES to prevent negative outcomes.

- Web Server
 - Server Name: MSPMITNPW1
 - IP Address: 136.181.129.9
 - Model: Dell PowerEdge 6650
 - 12 GB dedicated SAN space
- Database Server Cluster (10.29.27.49)
 - Server Name: MSPMITNPD1
 - IP Address: 10.29.27.47
 - Model: Dell PowerEdge 6650
 - 156 GB dedicated SAN space
 - Server Name: MSPMITNPD2
 - IP Address: 10.29.27.48
 - Mode: Dell PowerEdge 6650
- FileNET Server
 - Server Name: MSPMITNPA1
 - IP Address: 10.29.27.20



- Model: Dell PowerEdge 6450
- 96 GB dedicated SAN space
- FileNet Capture Station
 - Kodak 1500 Scanner
- Photo ID Printer
 - Fargo ProLX Printer

Operating Systems

The MCOLES Network servers all run Windows Server 2000 SP 4. All servers are maintained by MDIT. When issues arise that may impact the performance of the application or database the Contractor will consult with MDIT and MCOLES to prevent negative outcomes.

Desktop Workstations

All desktops are maintained by MDIT. When issues arise that may impact the performance of the application or database the Contractor will consult with MDIT and MCOLES on issues that may impact the performance of the application or database to prevent negative outcomes should that need arise.

The minimum specifications for the MCOLES workstations used as MCOLES Network client PCs are as follows:

- Dell GX150
- Pentium III 133
- 256 MB SDRAM
- 20 GB hard drive
- Windows XP

Software Listing All Oracle databases related to the applications must be maintained by the Contractor. When issues arise that may impact the performance of the servers, Contractor will work with MDIT and MCOLES to prevent negative outcomes.

- The MCOLES Network application is an Oracle database. The actual client server database is built using Oracle 8i and Oracle forms and reports 6i. The web application is built using Oracle 9ias.
- The system accesses imaged documents using a MCOLES Network viewer component that was developed using Visual Basic.
- Document imaging is conducted by the MCOLES using FileNet Image Manager. The documents are housed on the Storage Area Network (SAN) and are accessed through either the FileNet client or the MCOLES Network viewer. The tool used to view documents is dependent upon a staff member's responsibility and need to access.

Developer Tools Listing The following software and tools are being used for the operation and maintenance of the MCOLES Network. The Contractor must annually update this list of tools.

MCOLES Network Client Server Application

- Oracle Developer 6i tool set - Version 6.0.8.11.3
 - Oracle Forms Builder Forms 6.0.8.11.3 (Forms 6i, Release 2)
 - Oracle Report Builder Reports 6.0.8.11.3 (Reports 6i, Release 2)
- Oracle Designer 6i – Version 6.5.40.2.0
 - Oracle Repository – Version 4.12.40.3
 - Oracle 8i Enterprise Edition – Version 8.1.7.00
- PL/SQL Developer – Version 5.1.4.704
- SQL *Plus – version 8.0.6.0.0

MCOLES Network Viewer Application

- Visual Basic 6.0 (SP5)
- Microsoft Visual Studio - VB98



MCOLCS Network Web Application

- JDeveloper 9.0.3 - JDeveloper also includes some libraries and software that can be used separately. Examples are
 - Oracle JDBC Driver
 - OC4J
- CVS 1.11.1.1.3
- Apache Ant 1.6

Oracle Database Server

- RDBMS version 8i Enterprise Edition, Release 3 (8.1.7.4.1)
- Oracle FailSafe Version 3.1.2.0

Oracle Internet Application Server

- UNIX, Windows NT 4.0 Server w/SP 6.0a or Windows 2000 Server Operating System
- Oracle 9iAS Infrastructure 9.0.2.0.0
- Oracle 9iAS Core Patch Set 9.0.2.2.0
- Oracle 9i Application Server 9.0.2.0.0
- Oracle 9iAS Core Patch Set 9.0.2.2.0
- Microsoft Internet Explorer 6.0.2800.1106

Adherence to Standards

All standards for the MCOLCS Network programming are based on the *MCOLCS Network Updated System Requirements*, Appendix B. This document contains development and maintenance standards for:

- The database, tables, and data elements
- The graphical user interface
- PL/SQL coding standards
- Documenting changes
- Naming conventions

The Contractor must continue to adhere to the development and maintenance standards. Any modifications to these standards must first be approved by MCOLCS.

For each MCOLCS Network application area, there are separate subdirectory structures that comprise the associated library of source code components (including Oracle Forms, Reports, Libraries, and Menus).

Database

The MCOLCS Network database is an Oracle8i database. The FileNet database is also an Oracle 8i database. There is a small database on the web server controlling the functioning of the web application and this is currently an Oracle 9.2.0.7 database.

Network

MCOLCS staff accesses the MCOLCS Network application (client server and web) via the state's Lansing Area Network (LAN) when in the office and accesses the web application via the internet when in the field. End users access the MCOLCS Network using the internet via the web server housed in the state's DMZ. The Contractor accesses the MCOLCS Network application and servers via the Contractor VPN. (See MCOLCS Network Architecture in Appendix I.)

Firewall

- There are three firewalls:
 4. MDIT DMZ firewall allowing access to the web application on the web server.
 5. Data must then pass through the MDIT DMZ firewall into the
 6. MSP firewall before passing through to the database servers and the SAN.
- Firewalls 1 and 2 are maintained by MDIT. Firewall 3 is maintained by MSP.



Locations

All MCOLES Network servers and the FileNet server are housed in the server farm at the State Data Center Operations building in the secondary complex. All are located in the Michigan State Police segment and all are maintained by MDIT.

Current Workload Profile

The MCOLES Network is a fully operational production system. During the course of its operation it has required, on average, approximately 10-15 hours of routine monthly maintenance as described in section 1.104.B. – Application Maintenance Requirements.

The MCOLES also maintains a database of issues identified by staff and end users of problems and inefficiencies. These issues will be identified and administered using the Testing Investigation Reporting (TIR) process described in section 1.104.F. At any given time there could be 30 to 40 of these issues pending.

The MCOLES also is sometimes called upon to work on specific initiatives to address changes in enabling legislation, administrative rules, policies and procedures or business practices. The contractor will work on these issues as directed and prioritized by MCOLES based on a Statement of Work (SOW) agreed to by both the MCOLES and the contractor.

Disaster Recovery Requirements and Priorities

Contractor must respond immediately with the appropriate number and type of staff to address application and security problems. Contractor must work with MDIT and MCOLES to define timeframes within which certain types of problems are to be addressed.

Browser

The web system was built to the State of Michigan standard of Internet Explorer 5.0. The contractor agrees to support the current system. The contractor may be called upon to assist the MCOLES with any potential access problems caused by a newer version of Internet Explorer.

Reporting tools

The Contractor must work with the MCOLES using the State's standard of Crystal Reports to develop reports needed by the MCOLES for reporting to the legislature, the public and the law enforcement community.

Interfaces

There are a number of interfaces used to import data from other sources and to export data to other applications.

Interface Title	Source	Destination	Description
Reading & Writing Test Results	Performance-Based Selection, LTD	MCOLES Network	Nightly interface loads test results to data exchange gateway for MCOLES to retrieve
Licensing Exam Results	Performance-Based Selection, LTD	MCOLES Network	Scheduled interface will load test results to the data exchange gateway for MCOLES to retrieve
Annual LED Registration	MCOLES Network	MCOLES FoxPro LED Database Application	Annual LED registration and expenditure data from the MCOLES Network web staging tables for review and determination of funding eligibility in FoxPro app
In-Service Training from e-learning Sources	MCOLES Approved e-learning Contractors and programs	MCOLES Network	Pre-defined interface will allow Contractors to submit in-service training attendance to MCOLES

Classes of users

- The MCOLES Network is accessed by a broad range of MCOLES constituents across the public safety community.
- The user's skills range from totally computer literate to barely able to log on.
- Some users will only access the system once a year for the annual registration while others will make daily or weekly entries.



- Our user groups consist of:
 - Internal users
 - MCOLES Network team
 - MCOLES staff
 - Authorized external users
 - training and testing site staff
 - law enforcement agency staff
 - in-service training providers
 - Contractor's MCOLES Network team

Information regarding the State's information technology architecture and standards for hardware, database applications, network hardware and monitoring tools, identity management authentication and development tools may be found at <http://www.michigan.gov/dit/0,1607,7-139-34305--,00.html>

1.104 WORK AND DELIVERABLES

Contractor must provide Deliverables/Services and staff, and otherwise do all things necessary for, or incidental to, the complete and successful maintenance and on-going support of the MCOLES Network system, providing the functionality required for the State's business operations, in accordance with the requirements as set forth below.

A. General Requirements

4. The MCOLES retains all control over the timing of development and the priority given varying components.
5. The MCOLES retains the right to change priorities for development or cancel development based on budgetary constraints and legislative changes.
6. Develop and deliver a routine maintenance plan for the MCOLES Network Oracle database within 30 days of execution of this contract.

This plan will include:

Who

List of contacts; MITN Team members and NGC Help Desk

Roles and responsibilities of contacts

Does what

List of routine maintenance functions

Disaster recovery plan

Oracle services start and stop procedures

User access account creation procedures

Contractor's process for application, product and operating system releases and upgrades

When

A schedule for routine maintenance functions

Timeline for application, product and operating system releases and upgrades

Contractor will work with the State to implement the maintenance plan as approved by the MCOLES and MDIT.

B. Application Maintenance Requirements

10. Conduct routine database maintenance per the agreed upon plan.
11. Provide day-to-day support for database record cleanup that may be caused by:
 - a. Hung web acceptance (data caught in transition between the web application staging tables and the database tables).
 - b. Corrupted data rejected by the system
 - c. Hung data created by system aborts
 - d. Dropped internet sessions
 - e. System failure or interruption
12. Research and install Oracle patches on the MCOLES Network web server that are required to prevent security breaches.



- a. Troubleshoot application malfunctions.
 - 13. Restart web server and/or Oracle services as required.
 - 14. Transfer application and/or database to new hardware components as required:
 - d. Migrate application software
 - e. Migrate data
 - f. Integrate existing components with new components.
 - 15. Consult with MDIT staff as required to ensure proper system configuration for efficient and accurate system operation.
 - a. Potential hardware upgrades
 - b. SAN space allocation
 - 16. Update system documentation incrementally as system updates occur
 - a. Technical manuals
 - b. Database schema
 - c. System requirements
 - d. Detailed design
 - e. System change reports
 - f. Testing incident reports
 - 17. Provide a methodology for the identification of the need and notification of the MCOLES when 3rd party software upgrades are required. The purchase of any upgrades of 3rd Party software will be the responsibility of the State.
 - 18. Maintain the Functionality and data integrity of the existing interfaces in order to continue the complete and accurate flow of information.
- C. Minor Application Enhancement Development Requirements
- 3. The contractor will provide functionality problem resolution and minor application enhancements based on the existing TIRs procedure. This process is described in detail in section 1.104.F.
 - 4. Minor application enhancements and problem resolutions are defined as needed work on existing functionality or minor enhancements that can be captured, documented and responded to using the existing TIR process and does not necessitate Joint Application Design sessions to establish the criteria and parameters for the work.
- D. Major Application Enhancement Development Requirements
- 1. The contractor will provide a methodology to estimate the cost for individual components, identified by the MCOLES in Statement of Work documents, based on the number of hours of work so that financially sound decisions to proceed can be made by the MCOLES. Time used to create an estimate of work is not chargeable.
 - 2. The work statements for deliverables may include the following as appropriate:
 - a. A description of the deliverables to be provided
 - b. Target dates and critical paths for the deliverables
 - c. Identification of roles and responsibilities, including the organization responsible
 - d. The labor, equipment, materials and supplies required to be provided by the State in meeting the target dates established in the Preliminary Implementation Plan.
 - e. Process to finalize requirements
 - f. Internal milestones
 - g. Task durations
 - 3. Contractor must conduct Joint Application Design (JAD) sessions if and when the MCOLES is ready to move forward with the below listed items, or any not yet identified items.
 - a. Upgrade the system to enable the collection and tracking of medical data according to HIPAA standards.
 - b. Upgrade the web acceptance component of the system to allow for better review, approval and denial of incoming information.
 - c. Upgrade the system, where necessary, to interface with the upgraded FileNET software.
 - d. Upgrade the system to incorporate the use of Crystal Reports software to generate ad hoc reports.



- e. Upgrade the system to include multiple 'boards' as specified by new legislation, rules, policies or revisions to the MCOLES business practices.
 - f. Upgrade the LED web module to make it more efficient and user friendly.
4. Develop and implement application enhancements necessitated by new legislation, rules, policies or revisions to the MCOLES business practices.
- a. Identify application upgrades
 - b. Identify appropriate software versions or components to improve existing functionality
 - c. Design system changes required to implement upgrades including:
 - o Configuration
 - o Customization
 - o Modification
 - o Interfaces
 - o Data conversion
 - o Integration
 - o Testing
 - d. Develop code to implement system upgrades
 - e. Test and implement revised code
5. Application knowledge transfer (training)
- a. Contractor to MCOLES operations staff
 - b. Contractor to MCOLES and MDIT technical staff
 - c. Contractor to MCOLES Train the Trainer
6. Contractor must upgrade all Oracle services to version 10g based on an approved plan.
- a. The Contractor must implement the plan to upgrade all of the MCOLES Network's existing forms and reports to become compliant with Oracle 10g. This is an MDIT/Enterprise Security requirement to better secure the web component of the MCOLES Network application and the web server housed in the DMZ.
 - b. The first deliverables will be documentation of the protocols that have been implemented by the contractor to:
 - o Ensure compliance with all security standards
 - o Train new contractor staff as needed
 - o Provide routine web and database application maintenance
 - e. Contractor must work with MCOLES to finalize the project plan to include delivery dates for the immediate deliverables
 - f. Contractor and MCOLES acknowledge that delivery dates may be delayed as a result of components or services to be provided by other vendors or by MDIT. The parties will mutually agree to adjust the delivery dates if such delays occur.

E. Technical Requirements (see attached Appendix J-MCOLES Network Technical Requirements List) **MCOLES Network Database**

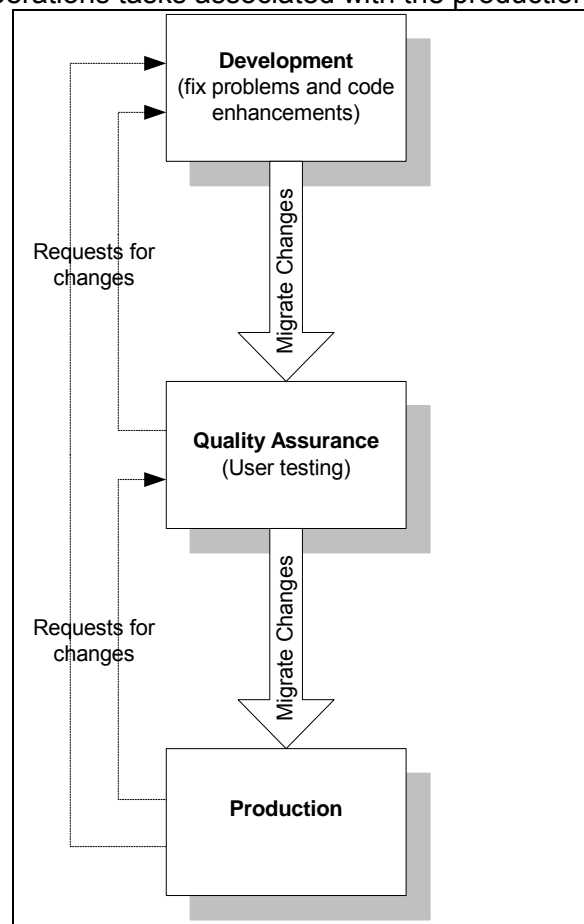
- 6. Environment** - The MCOLES Network production and quality assurance environments exist on MCOLES Oracle servers supported by MDIT on behalf of the MCOLES. A separate development environment will exist on a Contractor server. The Oracle database instances for these environments are as follows:
- Production – MPRD.MSP.NET
 - Quality Assurance –MITNDV.MSP.STATE.MI.US
 - Development – to be identified by the contractor

Each area consists of the MCOLES Network database structure and a separate subdirectory structure that comprises the associated library of source code components (including Oracle Forms, Reports, Libraries, and Menus).



- b. The contractor must maintain the **Development** area on Contractor equipment, to consist of several separate databases that mirror the production area in data definition, but contain small amounts of scrambled data.
 - ii. This area will be used by the Contractor's development staff to code upgrades, fix modules, and conduct unit testing.
- c. The **Quality Assurance** (QA) area provides a higher-level testing area that can be used by the Contractor's application support staff via the Contractor VPN and the MCOLES staff for testing upgraded or new program modules, as well as for conducting field training for end users. This area resides on MCOLES equipment and is maintained by MDIT and MCOLES.
 - iii. The Contractor must assist the MCOLES in migrating changes from development to QA. The QA area is protected from the ongoing changes that continually take place in the development area. Program modules will be more thoroughly tested in the QA area before final migration to the production environment.
 - iv. Contractor must provide the support of this area in accordance with a routine maintenance plan which must be submitted as a deliverable within 30 days of execution of the contract.
- d. The contractor is responsible for all application-related maintenance, as well as operating system and server configuration. MDIT is responsible for maintenance of the servers and operating system.

The day-to-day business of the MCOLES takes place in the **Production** area, which is maintained by MCOLES and MDIT on MCOLES equipment and is supported by the Contractor under this agreement. The MCOLES also carries out the operations tasks associated with the production application.



MCOLES Network Development, Testing, and Production Environments



- 7. General System Requirements** - Contractor must provide services meeting the following requirements, and to ensure the system continues to meet the following requirements
- ii. The system provides auditing of all transactions including the user ID, the date and time, and the computer from which the data was accessed or modified.
 - jj. The system ensures that confidential information is protected, both when stored and as it transits the network.
 - kk. The system enables efficient licensee management and controls to reduce the manual effort required.
 - ll. The system allows workers assigned by an agency, officers, training sites, training vendors or investigators to have appropriate access to data without making copies of file material or manually transferring data onto forms.
 - mm. The system efficiently integrates training, testing, investigation, standards screening and training vendor reporting information.
 - nn. The system provides the ability to select from a repository of predefined letters and notices and either merge address information from the system or enter address information into the letter. The system is able to record in the case record what letters or notifications were sent and the date they were sent.
 - oo. The system provides for the support of system interfaces and integration necessary for the coordination of services and for the elimination of paperwork and duplication of data collection and data entry.
 - pp. The system creates and maintains an information base that links an individual with all transactions related to law enforcement training and licensing from entry into the system through retirement to any post-retirement requirements that may be linked in the future, e.g. CCW for retirees.
 - qq. The system provides for the careful and full protection of all clients' rights to privacy and confidentiality through effective internal and external security controls that meet or exceed all legal requirements and official regulations on the subject.
 - rr. The system provides a query and report structure that satisfies eight basic levels:
 - ix. MCOLES internal administrators and managers
 - x. Regional training delivery site administrators and managers
 - xi. In-service training vendors, administrators and managers
 - xii. Legislator requests
 - xiii. Field representative requests
 - xiv. Agency requests
 - xv. Clerical staff
 - xvi. Licensing workers
 - ss. The system automatically produces routine and official reports required by the Commission, Governor or legislature, as well as by state or federal statutes and regulations.
 - tt. The system contains on-line edits and warnings designed to identify and avoid data inconsistencies.
 - uu. The system provides immediate, searchable and relevant on-line automated access to user guides or web sites containing needed information, e.g. MCOLES web site containing policies and procedures.
 - vv. The system provides automated flow in logical progression of data and windows to enhance worker orientation and familiarization of the system.
 - ww. The system is able to export form letters to word processing applications.
 - xx. The system operates uniformly as a single system throughout the state. All pertinent functionality in the system is made available to all MCOLES employees and end users based on their individual responsibilities and needs.
 - yy. The system standardizes forms.
 - zz. The system uses consistent methods to enter, update, and retrieve data. Users who understand one function of the system and feel comfortable navigating through it will feel comfortable navigating through all functions.
 - aaa. The system has a logical navigation order for each web screen to aid end users.
 - bbb. The system supports data entry processes by a series of edits, which provide integrity, validation, and consistency of format throughout the system.



- ii. The system is capable of "freezing" any entered data according to established business rules.
- ccc. The system provides the capability to confirm or undo changes, as well as prompt the user, when required, that data have not been properly entered.
- ddd. The system maintains a centralized, computerized training registry with an automatic search capability.
- eee. The system has a help file system that contains keyword search capabilities (an index) and a full glossary of all terms and contents with hyperlinks.
- fff. The system allows full functional access by the end users, 24-hours-a-day, 7-days-per-week basis, taking into consideration approved system maintenance windows and backup requirements.
- ggg. The system allows export of reports to spreadsheet and database applications.
- hhh. The system refreshes screen functionality automatically.
- iii. The system works within the existing agency and State technical environment.
- jjj. The system is designed to eliminate data redundancy as much as possible and to prevent unnecessary movement through fields during data entry.
- kkk. The system includes a data control and security component that prevents editing of all narrative text once it is considered finalized and saved in the system.
- III. The system has the ability to capture, categorize, and associate scanned documents with a case or person.
- mmm. The system provides the ability to exchange selected records and data elements with other applications according to specifications provided by the State, including, but not limited to, applications maintained by:
 - xii. Federal, state, local, tribal and specialty law enforcement agencies.
 - xiii. Federal, state, local, tribal and specialty law enforcement officers.
 - xiv. Michigan Judicial Institute.
 - xv. Michigan Department of Corrections.
 - xvi. Michigan Attorney General
 - xvii. MCOLES-approved basic training delivery sites
 - xviii. MCOLES-approved in-service training providers
 - xix. Prosecutors
 - xx. Emergency telecommunications operator training Contractors
 - xxi. MCOLES-approved testing facilities
 - xxii. Michigan State University Virtual University and/or other MCOLES-approved online training providers
- nnn. The system shall provide the ability to record, store, and display error messages received or produced as part of the transaction log.
- ooo. Hardware and software licenses conform to the State IT or agency-specific standards approved by MDIT.
- ppp. All products (source code) and services produced for this Contract become the property of the State.

8. Business Requirements

- c. **Location of Work** – The work is to be performed, completed, and managed at the following locations:
 - v. A development site for coding and testing of application changes and upgrades must be provided by the Contractor at the Contractor site for development, functional testing and quality control prior to distributing the component to the state Quality Assurance site for UAT.
 - vi. Initial implementation for the purposes of user acceptance testing (UAT) will be on the MCOLES Network Quality Assurance server housed by MDIT.
 - vii. Final implementation of the production software will be on the MCOLES Network production site also housed at the Data Center Operations site in the secondary complex.
 - viii. The State **will not** provide the following resources for the Contractor's use on this project: Work space, clerical support, desk, telephone, pc workstation, printer, access to copier and fax machine, or parking.



- d. **Security and Confidentiality** - The contractor must submit all staff to a background check by the Michigan State Police including, but not limited to, a fingerprint and criminal history check.
- x. No unauthorized Contractor staff will be allowed access to the MCOLES Network either at the Contractor's development site or the state hosted production and quality assurance sites.
 - xi. The State will retain administration of data access security, including application security (granting of access, resetting of passwords, definition of password syntax rules, monitoring of access violation reports, etc.).
 - xii. The State will administer all user security profiles.
 - xiii. MDIT will oversee and coordinate security issues relative to the Contractor and State agencies.
 - xiv. The contractor cannot use the customized version of the MCOLES Network as a sample for sale or distribution without MCOLES written permission.
 - xv. The Contractor is responsible for the security of the MCOLES Network application software.
 - xvi. The contractor is responsible for the research and implementation of patches to the MCOLES Network Oracle operating system and databases as required by MDIT Enterprise Security.
 - xvii. Confidentiality of Data and Information
 - 3. All financial, statistical, personal, technical and other data and information relating to the State's operation which are designated confidential by the State and made available to the Contractor in order to carry out this Contract, or which become available to the Contractor in carrying out this Contract, will be protected by the Contractor from unauthorized use and disclosure through the observance of the same or more effective procedural requirements as are applicable to the State.
 - 4. The identification of all such confidential data and information, as well as the State's procedural requirements for protection of such data and information from unauthorized use and disclosure will be provided by the State in writing to the Contractor. If the methods and procedures employed by the Contractor for the protection of the Contractor's data and information are deemed by the State to be adequate for the protection of the State's confidential information, such methods and procedures may be used, with the written consent of the State, to carry out the intent of this section.
 - 3. Data transferred to the Contractor's test environment will be scrambled such that confidential or identification information is not available to Contractor staff working in their test database.
 - xviii. Security Plan
 - The Contractor must comply with the plan for monitoring and maintenance of data and system security
- d. **Training - (limited to new enhancements)**
- v. The Contractor must provide a training plan, including an estimate of how many hours needed so that MCOLES may schedule a training site for training and advise staff to set aside for training.
 - vi. The Contractor must provide training on upgrades and modifications of the system that effect functionality to system administrators in a manner appropriate for the change at no additional cost to MCOLES.
 - vii. The Contractor must provide all system training manuals, training plans and other documentation to the State as requested by MCOLES.
 - viii. Training materials provided will become the property of the State.
- d. **Documentation**
- vi. The Contractor must provide written/electronic documentation of changes completed in response to problems identified by the MCOLES on the applicable Testing Investigation Request (TIR) form.



- vii. The Contractor must document all changes in the source code allowing for the MCOLES and MDIT database administrators (DBA's) to view and understand changes
- viii. The Contractor must provide documentation in State-approved electronic format of upgrades/modifications of the applications that affect end-user functionality (i.e. updates to the data element dictionary, the entity relationship diagrams, and the database schema, etc.).
- ix. The Contractor must provide documentation updates for all appropriate manuals as additional capabilities or improvements are made to the system.
- x. The Contractor must submit the following documentation annually in State-approved electronic format:
 - 8. System-wide documentation and specifications
 - 9. Baseline End-User training manuals to be used as a basis for "User Manuals" and online help
 - 10. Installation procedures
 - 11. Configuration documents sufficient for configuration maintenance purposes
 - 12. Specification documentation
 - 13. Production migration (where applicable)
 - 14. Data conversion (where applicable)

f. Warranties

- xii. The Contractor must provide a warranty provision for the products and services resulting from this Contract commencing on the first day following formal written acceptance by the State.
- xiii. The Contractor must warranty any new development necessitated by business requirement changes or legislative changes causing a re-write of existing code.
- xiv. The Contractor must warranty any new code necessitated by the upgrade to Oracle 10g or similar fixes.
- xv. The warranty period is one (1) year.
- xvi. During the warranty period, Contractor must correct any element of the system which fails to perform in accordance with the requirements of this Contract and/or published specifications.
- xvii. Corrective action by the Contractor may include, but is not limited to, redesigning, repairing or replacing the nonconforming element.
- xviii. The Contractor must warrant the functioning of the system against design flaws that are detected after UAT and implementation that could not be detected in the Quality Assurance environment due to the limited amount of access and load.
- xix. The warranty shall provide that all hardware, software and firmware is free from imperfections in design and free from any and all defects and is able to perform continuously and satisfactorily under normal operating conditions.
- xx. Imperfections and defects include the insertion of malware, "virtual Easter eggs" (messages, graphics, sound effects, or an unusual change in program behavior, that occur in a program in response to some undocumented set of commands, mouse clicks, keystrokes or other stimuli), or back-door access designed into the code.
- xxi. The one year warranty following acceptance must include all parts and labor . Coverage and response time for remedial maintenance requests during the warranty period must be as defined in the remedial maintenance requirements of this section.
- xxii. The Contractor must assign all applicable third party warranties for deliverables to the State.

9. Operational Requirements

- 24. All system support must be coordinated through the MCOLES
- 25. All system maintenance requiring the shutting down of the MCOLES Network must be conducted after 5 pm Eastern time or on weekends with the prior consent of the MCOLES
- 26. The MCOLES Network will be online 24/7
- 27. The Contractor will provide support to address any non-security related problems with the system between the hours of 7 am and 10 pm Eastern time.



28. The Contractor will provide thorough, ongoing technical system support.
29. The Contractor must provide proactive system maintenance to ensure efficient processing and prevent loss of processing time and data.
30. The Contractor must provide online technical system documentation.
31. The Contractor must provide telephone technical support with 15/5 support.
32. The Contractor must provide e-mail technical system support with a maximum 24-hour turnaround on questions.
33. The Contractor must provide on-site technical support upon the State's request.
34. The Contractor must provide an escalation process for technical support.
35. The Contractor must provide the MCOLES system administrators with telephone access to the technical lead or technical support engineers for assistance in resolving system problems, with immediate response between the hours of 7am and 10 pm Eastern time.
36. The Contractor must respond to the telephone requests for maintenance service, within two (2) hours, for calls made at any time during the hours noted above.
37. The Contractor, with the State's approval, will provide Routine maintenance off-site via telephone or secure connection to the system.
38. The Contractor's maintenance program will commence immediately upon contract initiation.
39. All maintenance will be performed by qualified personnel who are trained in the use of the identified tool and are thoroughly familiar with the system.
40. Any recommended change to the functionality or database schema must be approved by the MCOLES PRIOR to any changes being committed for testing.
41. The Contractor must provide backup maintenance resources.
42. The Contractor must provide disaster recovery assistance.
43. The Contractor must provide for escalation of maintenance issues to ensure critical issues are resolved.
44. The Contractor must provide remote diagnostic capabilities.
45. The Contractor must provide one point of contact to report system malfunction whether malfunction is due to software or is of unknown origin. The Contractor will be responsible for providing the appropriate remedy.
46. For the first year and all subsequent Contract years, the Contractor must provide the following services for the system, commencing upon initiation of this contract:
 - d. Error Correction. Upon notice by the State of a problem with the system (that can be verified), the Contractor shall use reasonable efforts to correct or provide a working solution for the problem.
 - e. The Contractor must notify the State of any material errors or defects in the deliverables known, or made known to the Contractor from any source during the Contract term that could cause the production of inaccurate or otherwise materially incorrect, results.
 - f. The Contractor must initiate actions, as may be commercially necessary or proper to effect corrections of any such errors or defects

10. Payment Restrictions

- a. The state will not pay for time necessitated by an inexperienced developer corrupting code or disabling functionality.
- b. The state will require an estimate for larger repairs prior to work commencing. Payment for time spent researching a fix will be limited to the hours of technical work.
- c. The state will not pay for Contractor overhead costs for a Contractor project manager or accountant creating estimates, or proposals, or preparation and detailing of invoices for payment.

F. Application Support Procedures

6. **Adherence to Standards** – Contractor must adhere to all standards for the MCOLES Network programming as detailed in the *MCOLES Network Updated System Requirements*, Appendix B. This document contains development and maintenance standards for:
 - o The database, tables, and data elements
 - o The graphical user interface



- PL/SQL coding standards
- Documenting changes
- Naming conventions

For each MCOLES Network application area, there are separate subdirectory structures that comprise the associated library of source code components (including Oracle Forms, Reports, Libraries, and Menus).

The following specifies the methodologies, procedures, and control techniques that the Contractor must follow to ensure quality control and interact with the MCOLES.

- d. Overview of Work Flow – **The contractor is responsible for software application support for the MCOLES Network.** Software **support** includes, but is not limited to, the following tasks and activities:
 5. Operational Support: Contractor staff will assist MCOLES system administrators with the day-to-day operation of the application. Other efforts that could fall under this category of work could include 'knowledge transfer' activities for MCOLES Network staff, for example providing MDIT DBAs consultation about possible changes to the MCOLES Network environment being considered by MCOLES.
 6. Interface Support: Assistance in this area includes analysis of transaction modifications, testing of transactions created by interface applications in the MCOLES Network, or participation in design sessions for contributing agencies (e.g. prosecutors, 911 operators, reserve officers, etc.), or to explain the transaction processing as currently designed.
 7. Address/Resolve Components of Existing Functionality: This category of support will be utilized to fix the functionality of existing modules due to changes in MCOLES business mandates, rules or policies. Examples of work for this category of support/maintenance could include adding additional fields to screens, relaxing or tightening of edits for modules, and updates to code supporting system functionality. It could also include improvement of the automated business process flows being supported in the baseline to meet the actual production business flows that are evolving with the MCOLES Network implementation.
 8. Change Control Management and Support: The MCOLES will perform all tasks related to tracking problems (their priority and resolution), preparing materials for change control meetings, as well as planning, scheduling, and conducting change control meetings.
 5. Problem Resolution Investigation and Support: This category of maintenance support is utilized for resolving problems in the MCOLES Network. These activities include discussion and analysis. The production of written recommendations where changes are substantial may be required.
 6. Data Issue Resolution: The contractor must provide maintenance support to correct data issues that arise from incorrect use of the system as well as data corrupted by problems with the system and data hung in web acceptance.
- e. Software enhancements are requests for changes in system functionality dictated by changes in business practices or changes mandated by legislative or administrative rule changes. Examples are upgrades to existing screens, interfaces, reports and back-end procedures. Activities involved with software upgrades include discussion and analysis, as well as production of written recommendations, and estimates to perform the work being requested (when applicable).
- f. All software maintenance and enhancements will be logged into the **MCOLES Problem Tracking Database** system, or another tracking system as identified by MCOLES and MDIT, for



assignment of a work priority and resolution and final acceptance tracking purposes by the MCOLES.

7. **Software Support Work Flow** – Contractor must provide management and control of the MCOLES Network software maintenance and enhancement activities necessary for the Contractor's application support staff to adequately carry out work assignments approved by the MCOLES.

- d. **Minor System Enhancements** - The procedures for requesting, administering, and accomplishing the MCOLES Network software support activities reported by users are described as follows:

- ii. **Problems Reported to the MCOLES Network Supervisor.** The MCOLES Network supervisor receives a problem. The problem may be conveyed verbally, by electronic mail, fax or mail. The MCOLES Network team evaluates the problem and determines whether it is a potential software problem, a program policy problem, or a user training issue. A potential software problem is reported on a Testing Investigation Request (TIR) and tracked in the **MCOLES TIR Tracking Database, or another tracking system as identified by MCOLES/DIT**, with a priority designation and is referred to the Contractor's Technical Lead. The priority designations are:

- **System Down** – requires an immediate response by the Contractor. This will include the response of a DBA where a system malfunction has occurred necessitating a recovery of data or a system restart which cannot be performed by DIT. This category may also apply when multiple users are impacted by the same problem or during a peak period leading to deadlines. This category will require the Contractor to specifically define a method for contacting a technical support person even during a Contractor's off hours (e.g. if Contractor is on Mountain time and the MCOLES needs assistance at 8 am Eastern time). **All System Down problems shall be resolved, or a plan of action to resolve them shall be completed within 24 hours from the time the problem was first reported to the Contractor.**
- **Critical** – Used when a problem arises that MCOLES has no other ability to work around. Critical TIRs will take precedence over all other prioritized TIRs at the direction of MCOLES. Critical issues include those affecting one specific agency that, if it occurred to multiple agencies of the same type, would otherwise be classified as System Down.
- **High** – Issues that address ongoing functionality and must be fixed to allow MCOLES and their constituency to properly operate the system. These will be prioritized by the MCOLES Network Team in conjunction with the Contractor's technical lead.
- **Medium** – Issues that are of a less critical nature and impact. These can also be completed simultaneously to a higher priority item if appropriate after consultation with the MCOLES.
- **Low** – Non or improperly functioning components but other acceptable means of addressing the problem exist. These will not be addressed until MCOLES designates their priority.

4. When issues are prioritized as Critical or System Down, the Contractor must provide an immediate response, or an estimated timeline for a response to enable the MCOLES to provide notice to its constituency of a problem via the web page.
5. Only prioritized Testing Investigation Request (TIR), pre-approved by the MCOLES, will be worked on.
When extensive research or system change will be required to address a problem identified via a TIR, the technical lead will notify the MCOLES Network Supervisor of these preliminary findings to allow the MCOLES an opportunity to verify that the resources necessary to address the issue are available and should be expended at that time.
6. In all instances of providing notification to the MCOLES Network Supervisor, the MCOLES Network Project Manager and Specialist must always be copied to ensure that



prompt response and action is taken by the MCOLES in the event the MCOLES Network Supervisor is not available or is doing MCOLES field work at any given time.

- ii. **Contractor's Technical Lead Reviews and Assigns Problem Report** - The Contractor's Technical Lead reviews the problem report, estimates the effort required to resolve the problem, if requested, and performs the work or assigns the request to another member of the Contractor's maintenance team based on the skills required and the priorities established by the MCOLES.
- iv. **Technical Lead or Other Contractor Staff Resolves Problem** - The Technical Lead and other Contractor staff will manage their workload based on the priorities assigned to their various problem reports.
 - 4. Upon receipt of a problem report, the Contractor's staff member assesses the problem and determines the resolution.
 - a. If more information is required, the Contractor's staff member will communicate with MCOLES Network Supervisor to obtain the necessary information.
 - b. The most knowledgeable MCOLES Network staff member will be listed as the reporting individual on the cover sheet of the TIR document. Direct communication with that individual is an acceptable method of resolving an issue if approved by the MCOLES Network Supervisor. If further input or a wider knowledge base is needed, the MCOLES Network Supervisor will bring additional resources into the discussion.
 - 5. If a software change is required, the Technical Lead or other Contractor staff member modifies the appropriate program modules, tests and documents the test results using the necessary printouts and screen-prints to demonstrate the validity of the changes.
 - c. Notice will be sent to the MCOLES Network Supervisor documenting what was changed and what should be tested.
 - d. Where possible, screen-prints produced during testing should be forwarded to the MCOLES to guide user acceptance testing.
 - 6. In all cases, when a problem is resolved the resolution and an explanation of what was done must be entered on the TIR document. This will then be returned to the MCOLES Network Supervisor as the written explanation to the problem resolution. This will ensure that the MCOLES Network staff is kept informed of changes that are made and recorded in the source code.
- v. **Technical Lead Requests Walkthrough (where applicable)**
 - 4. Upon successful testing by the user, the Technical Lead may present the changes in a technical walkthrough if necessary.
 - 5. The Technical Lead schedules a walkthrough with the MCOLES Network Team.
 - 6. If the results of the walkthrough are not approved, the Technical Lead must arrange for the necessary fixes documented at the walkthrough. This will greatly reduce the likelihood of changes causing unintended consequences.
- vii. **MCOLES Reviews and Tests the Software Change**
 - 4. The MCOLES Network Supervisor coordinates testing of the change on the Quality Assurance site. The Contractor must provide technical support for the testing.
 - 5. Upon completion of testing, the MCOLES Network supervisor returns any point sheets identifying problems or issues encountered during testing along with the actual test results (if desired by the Contractor) to the Contractor's technical lead.
 - 6. If the software does not pass UAT, the problem report is returned to the Technical Lead
- viii. **Problem Report Referred to Technical Lead**
 - 2. Once a program module has successfully gone through the walkthrough and testing process, the Technical Lead is responsible for obtaining the client signature approval.



viii. **Software Changes are Migrated to Production Environment**

6. Non-emergency software changes will be migrated to the production environment on a scheduled basis.
7. Emergency migrations will occur at the first opportunity in accordance with MCOLES Network procedures.
8. When the migration is complete, the Technical Lead will ensure that the MCOLES Network has been returned to a fully operational state and then inform the MCOLES Network Supervisor that the module(s) was migrated to the production environment so the changes can be monitored.
9. The Technical Lead will be responsible for ensuring that all components of the system are returned to proper production functioning and then notify the MCOLES Network Supervisor that the problem has been resolved.
10. The Technical Lead will also ensure that all necessary notations and explanations of changes have been documented and filed in the appropriate place.

ix. **Reporter of Problem is Notified of Fix**

3. The MCOLES Network Supervisor notifies the originator of the problem report that it has been fixed.
4. After verification that the change is also working properly in the production environment, the MCOLES Network Supervisor closes the problem report in the MCOLES TIR Tracking Database.

e. **Production Recovery Problems** - The workflow for the resolution of the MCOLES Network production recovery problems differs from that of user-reported problems. The timely resolution of these problems is critical to ensure that the system is available to MCOLES Network users the following workday. The procedures for addressing production recovery problems are as follows:

vi. **Problem is Detected and Reported by the MCOLES during off hours** - Upon detecting an unexpected result from the MCOLES Network, the MCOLES Network Supervisor will attempt to determine the nature and source of the problem. If the problem is software-related, the MCOLES Network Supervisor contacts the Contractor's Technical Lead or person responsible for the MCOLES Network on-call support.

vii. **On-Call Support Person Investigates**

4. The on-call support person investigates the problem and determines if the problem is software-related or not.
5. If it is software-related, the on-call support person determines whether or not the software changes need to be made immediately in order for the system to be returned to an operational status.
 - b. When necessary, the on-call support person will consult with other members of the Contractor's MCOLES Network Team.
6. If the problem is not software-related or if the on-call support person determines that the software change does not need to take place immediately, the on-call support person writes a problem report and proceeds with any other actions necessary to return the system to an operational status.

viii. **On-Call Support Resolves Problem**

3. If it is decided that the software change must be made, the on-call support person makes the software change and tests it as much as is practical. The on-call support person then makes one of two choices: to arrange for the software change to be migrated to the production environment or to continue running the production job out of the test module.
4. If a migration to the production environment is necessary, the on-call support person notifies the MCOLES Network Supervisor or System Administrator who reported the problem and contacts the person responsible for migrations to perform this function.



ix. Problem is entered into the MCOLES TIR Tracking Database

3. The reporting MCOLES Network Supervisor records the problem and its resolution in the MCOLES TIR Tracking Database.
4. The information is also e-mailed to the Contractor's Technical Lead.

x. Technical Lead Checks the Software Change

3. The following business day, the Technical Lead reviews the software change and the accompanying documentation.
4. If the software resolution does not pass inspection, the problem report is returned to the Contractor's staff member who will make the changes necessary to fix the problem.

f. Major Software Enhancement Work Flow

All changes to the MCOLES Network system are controlled by the MCOLES to ensure that MCOLES priorities are met and that system integrity is maintained. All changes and upgrades are subject to review and prioritization by the MCOLES Network Team.

- ii. Changes to the MCOLES Network system are initiated through the MCOLES Network Supervisor. The following steps are followed for all software upgrades.

11. MCOLES Network Steering Committee Reviews the Change Request

The MCOLES Network Steering Committee meets regularly to review new and outstanding change requests.

12. If the MCOLES Network Steering Committee requests it, the Contractor must provide a detailed analysis of the impact of the requested change. An impact analysis will be written on requested changes that may have a significant impact on the system.

13. The impact analysis includes parts or all of the following (as appropriate):

- a. A functional and technical description of the impact on specific components (screens, reports, and processes)
- b. Time estimates for analysis, development, testing, and Quality Assurance
- c. Implementation and conversion plans, as appropriate
- d. Changes to manuals (such as the internal MCOLES Network User Manual, user guides and On-Line Help)
- e. Ramifications of proceeding with the changes
- f. Sign-off section (MCOLES Project Manager)
- g. Other relevant information

14. Technical Lead Assigns Approved Changes

Once the MCOLES Network Project Manager approves proceeding with an enhancement and signs the impact analysis (if any), and the MCOLES Network Supervisor assigns the work a priority for development, the Technical Lead performs or assigns the work to the appropriate Contractor staff member for completion.

15. Technical Lead or Other Contractor Staff Completes the Upgrade

- a. The Technical Lead modifies or assigns a staff member to the appropriate program change or upgrade and documents the test results using the necessary printouts and screen prints to demonstrate the validity of the changes.
- b. Notice will be sent to the MCOLES Network Supervisor documenting what was changed and what should be tested.

16. MCOLES Reviews and Tests the Software Change

- a. The MCOLES Network supervisor coordinates MCOLES testing of the upgrade on the Quality Assurance site. The Contractor must provide technical support for the testing.
- b. Upon completion of testing, the MCOLES Network Supervisor returns any point sheets identifying problems or issues encountered during testing along with the actual test results to the Technical Lead.



- c. If the software does not pass user acceptance testing, a problem report is returned to the Technical Lead .

17. Technical Lead May Request a Walkthrough

- a. The Technical Lead may do a technical walkthrough.
- b. The Technical Lead schedules a walkthrough with the MCOLES Network Supervisor. This can reduce the likelihood of changes causing unintended consequences.
- c. If the walkthrough is not approved, the Technical Lead must arrange for the necessary changes documented at the walkthrough.

18. Software Changes are Referred to Migrator

Once a program module has successfully gone through the walkthrough process, and client signature approval is obtained for migration, the Technical Lead passes the migration request to the appropriate migrator.

19. Software Changes are Migrated to Production Environment

- a. Software changes will be migrated to the production environment on a scheduled basis.
- b. Emergency migrations will occur at the first opportunity in accordance with MCOLES procedures.
- c. When the migration is complete, the Technical Lead will ensure that the MCOLES Network has been returned to a fully operational status and will inform the MCOLES Network Supervisor that the module(s) was/were migrated to the production environment so the changes can be monitored.

20. Requester of Changes is Notified of Completion

The MCOLES Network Supervisor notifies the originator of the request that the upgrade has been completed. Once it is verified that the change is functioning as intended in the production environment the MCOLES Network Supervisor closes the report in the MCOLES Network TIR Tracking Database. .

8. Setting Enhancement and Change Priorities: The MCOLES Network Steering Committee

- iii. The responsibility of assigning priorities to all work done under this agreement lies with the MCOLES Network Steering Committee and/or the MCOLES Network Supervisor. The Contractor will work only on approved problems and changes, and in the order determined by the MCOLES.
- iv. No upgrade or changes will be made to the MCOLES Network without prior authorization from the MCOLES Network Steering Committee unless the MCOLES Network Supervisor determines that an emergency requires that a change or modification be made to the MCOLES Network application software.

9. System Change Documentation

- ii. The Contractor must document all changes reflecting new procedure/process capabilities and options in the MCOLES Network. Program fixes are documented in a program change comment block located in the top of the source code.
 - 4. The program change block notes the TIR number, the name of the Contractor's staff member implementing the change, the date of the changes, and a brief description of the change.
 - 5. Any important program change is also commented at the point of change in the program.
 - 6. The change is also briefly delineated in the response to the TIR sent by the Technical Lead to the MCOLES Network Supervisor.
- iii. The Contractor must maintain system documentation for the life of each MCOLES Network module. System documentation for each module may include
 - 7. Module Overview
 - 8. Detailed Functional Specifications



- 9. Special Navigation Specifications
- 10. Database Triggers
- 11. Database Views
- 12. Detailed Data Specifications
- v. All changes are reflected in the *MCOLES Network Detailed Design Document*, Appendix C
- vi. Updated copies of documentation will be delivered to the MCOLES annually at a minimum or as requested. Documentation will be submitted as electronic documents with the exception of the database charts, which will be provided in printed form.

10. Testing and Quality Assurance - The Contractor's quality assurance procedures are designed to ensure that the functionality of newly developed changes and upgrades are complete and accurate, and that the changes are implemented in the production environment in a systematic and controlled manner.

a. Contractor's Quality Assurance

- i. The Contractor's Technical Lead, all of the Contractor's staff, and ultimately the MCOLES Network Supervisor perform quality assurance activities on the MCOLES Network application prior to production migration.
 - 2. The Technical Lead provides an overall quality assurance check of technical and functional correctness and adherence to documentation standards.
- ii. Changes to the MCOLES Network are subjected to an integrated series of tests to verify the accuracy of maintenance and change work.
 - 2. Depending on the extent of the software change, the following types of testing are performed: unit testing, function/system testing, and MCOLES acceptance testing.
- iii. Responsibility for unit testing program changes rests primarily with the Contractor's staff making the change.
 - 3. The test results should reflect the correct execution of every major path in a program, the correct results from every calculation, and the correct flow of control within the online application or batch job stream.
 - 4. Test results must be provided for the program changes.
- v. The Contractor's staff members will also function test and system test the module to ensure the new or corrected functionality works with other modules. These test results must be provided for the program changes to be migrated to the MCOLES Network Quality Assurance environment for user testing and then for migration to the production environment.
- v. Depending on the complexity and critical nature of certain modules and/or changes, the Contractor's Technical lead may provide an overall quality assurance to check the accuracy of the business functions.
- vi. The Contractor's quality assurance process ensures that:
 - 10. The change appropriately addresses the problem reported or upgrade requested.
 - 11. The change does not introduce new functional or technical problems into the MCOLES Network including those discovered that may not have been reasonably expected during testing within the context of the process.
 - 12. If a change introduces new functional or technical problems it will be identified and fixed or backed out of the system if it cannot be fixed in a reasonable timeframe.
 - 13. The change meets the software and documentation standards defined for the MCOLES Network.
 - 14. The change does not result in unnecessary added computer costs, batch processing time, or degraded online response time.
 - 15. The change is accomplished in accordance with the approved coding standards.
 - 16. Rigorous testing is conducted on all new code.
 - 17. Programs are migrated into the Quality Assurance environment and, when approved, into the production environment.
 - 18. Program performance and resource utilization reviews are implemented and plans are developed for performance problem programs.



- viii. All MCOLES Network programs will follow the standards defined in the *MCOLES Network Updated System Requirements*, Appendix B. Standards for naming elements, cross-referencing paragraphs and indentation of paragraphs for readability are enforced.
 - viii. The creation of numerous data elements in an application can easily lead to chaos in determining the meaning of data. Shared, reusable data elements will be used, where possible, to reduce redundancy. The enforcement of consistently-named data element abbreviations keeps the look of the code consistent to all Contractor staff and allows training to become easier. These element names will ensure quick recognition of code by the Contractor's staff.
 - ix. Program walkthroughs will be conducted for technical and functional completeness and resource efficiency.
 - 4. Rigorous testing will be performed on new modules.
 - 5. Changed code for a program fix or upgrade will be evaluated for its placement in the system and for the introduced complexity. The affected logic paths and new test conditions will need to be identified for testing.
 - 6. Documentation regarding affected logic paths and new test conditions will be provided to the MCOLES Network Supervisor.
 - x. Before a module can be migrated to the Quality Assurance area, the Contractor's staff must prepare a migration request form.
 - 4. For a new program, the Contractor's staff must also include the program folder.
 - 5. A copy of the problem report is included for a program fix.
 - 6. The problem report and changed source code guide the testing process and should be shared with the MCOLES Network Supervisor to also guide testing in the Quality Assurance area.
- b. **MCOLES Quality Assurance**
- i. In addition to the internal quality assurance performed by the Contractor's staff, system changes are subject to MCOLES quality assurance. The purpose of this quality assurance is to verify that the software changes function correctly in the context of the business flow.
 - ii. Depending on the extent of a given change, the MCOLES Network Supervisor may take one of the following quality assurance actions:
 - 4. Review the submitted test documentation performed by the Contractor's staff member responsible for the changes.
 - 5. Test the upgraded and/or changed module(s).
 - 6. Assemble an MCOLES acceptance testing team to test the changes.
 - iv. Depending on the results of the review and testing of the system changes, the MCOLES Network Supervisor will approve or reject the changes. Accepted changes will be migrated to the production environment on the next scheduled production migration. Rejected changes will be returned with comments to the Technical Lead who will forward the problem to the appropriate staff member.

1.2 Roles and Responsibilities

1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES

The organizational structure and job descriptions for each position must be maintained. All staff must be identified by name and title. Resumes supporting each assigned staff member's qualification for the job assigned must be on file with MCOLES. There must be specific explanation of how the experience documented in each resume will meet the needs of the MCOLES. Any new staff member must be identified by name, date-of-birth, work location and address and function and approved by the MCOLES process before billable hours can be worked. Any team members who have access to data and/or system files must be screened and approved by MCOLES to the required security standards prior to being allowed access to data.

Application Support Team

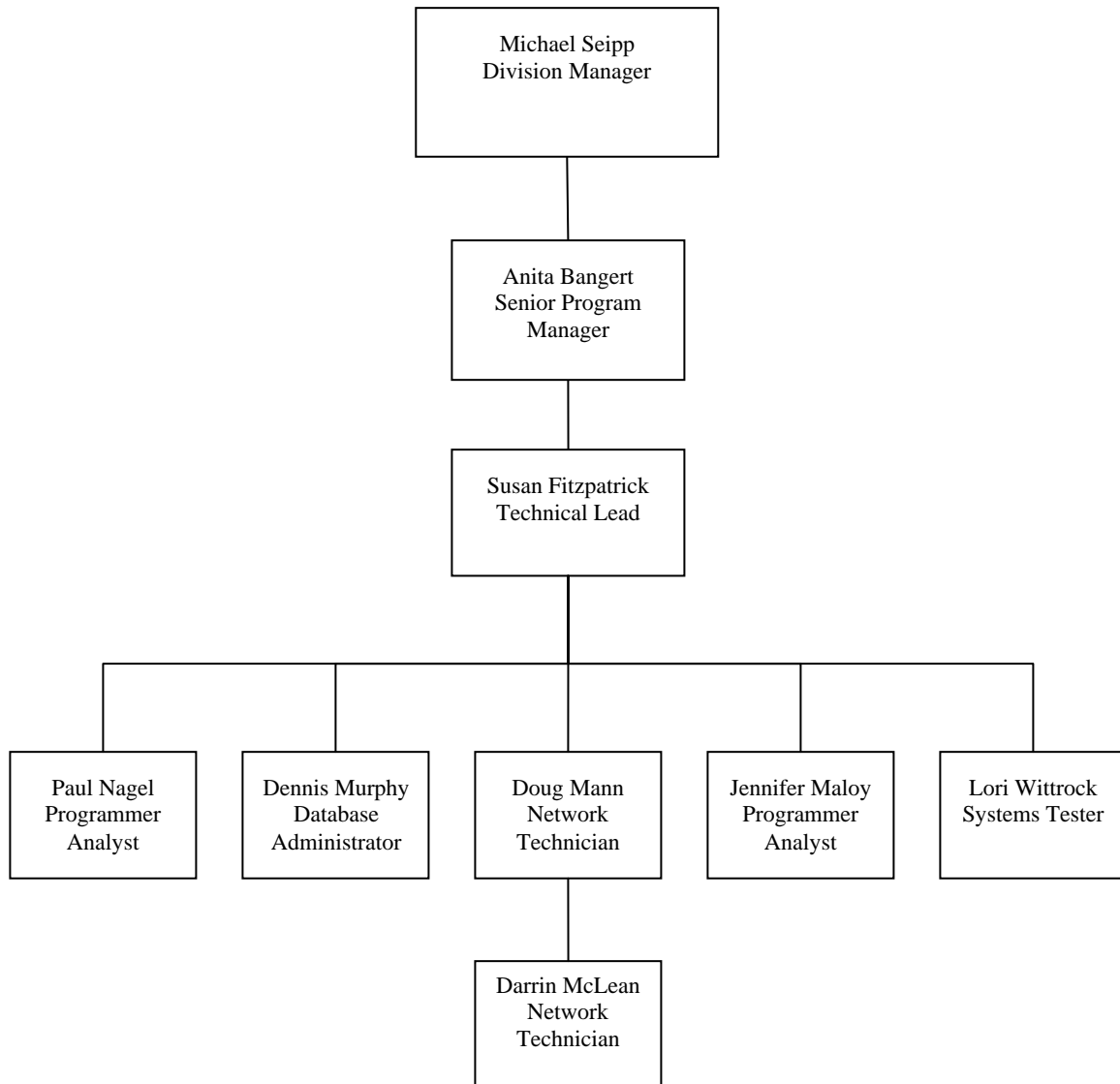
The contractor proposes technical staff to support the continued growth of the Michigan MCOLES Network with the following skills:

- Oracle 9i DBMS, the database management software



- Oracle Forms 6i, the language used to build and modify client server screens
- Oracle Reports 6i, the language used to build and modify reports
- Oracle PL/SQL, the language used to build and modify backend procedures, packages, and functions
- JDeveloper, the language used to build and modify web pages.

Contractor's organizational structure, reporting structure, resource names, and position descriptions are addressed in this section. This section also contains a detailed resume for each proposed team member. Also in Article 1, Attachment B.



• **Exhibit 4 Application Support Team Organization**

For the MCOLES Network project, the Technical Lead will have the authority to assign work to the support team members. However, since some of the team members are only assigned to the project on a part-time basis, the following table defines the reporting structure and chain of command for each person assigned to the MCOLES Network Application support team:



Name	Full or Part Time NG Employee	Employment Status: P = Permanent	Supervisor this Person Reports to	Supervisor Reports to	Work Location	Time Zone
Susan Fitzpatrick	Full	P	Anita Bangert	Michael Seipp	Helena, MT	MST
Jen Maloy	Full	P	Anita Bangert	Michael Seipp	Helena, MT	MST
Paul Nagel	Full	P	Juli Mattfeldt	Denise Patterson	Helena, MT	MST
Lori Wittrock	Part	P	Jane Fournier	Michael Seipp	Helena, MT	MST
Dennis Murphy	Full	P	Sue Deyo	Michael Seipp	Helena, MT	MST
Doug Mann	Full	P	Sue Deyo	Michael Seipp	Helena, MT	MST
Darrin McLean	Full	P	Doug Mann	Sue Deyo	Helena, MT	MST

- Exhibit 5 reporting structure and chain of command for staff assigned to
- the MCOLES Network Application support team
-

Project Team responsibilities are defined as follows:

Technical Lead – The Technical Lead is responsible for all software changes, either maintenance or enhancements, made to the MCOLES Network application. The Technical Lead serves as the single point of contact for the Contractor, and interacts directly with the MCOLES Network Supervisor. The Technical Lead develops or reviews estimates of work and proposed schedules to assist MCOLES with setting priorities for systems and programming requests, and directs and coordinates the technical resources in the completion of such work requests. The Technical Lead is responsible for reviewing and assigning problem reports and enhancements ensuring the timely, complete and correct development, testing, documentation and implementation of system changes, version control and configuration management **AS the only team member designated as key personnel there must at all times be a trained, designated backup identified and screened for security.**

Systems Analyst – The Systems Analyst is responsible for performing analysis, design, programming, documentation, and testing activities as assigned; managing a prioritized workload of problem reports and enhancements; maintaining program documentation; reporting on task status; and providing on-call support.

Programmer Analyst – The Programmer Analyst assists with or is responsible for performing analysis, design, programming, documentation, and testing activities as assigned; managing a prioritized workload of problem reports and enhancements; maintaining program documentation; reporting on task status; and providing on-call support.

Systems Tester – The Systems Tester is responsible for ensuring the quality of software solutions by identifying appropriate and robust testing scenarios, developing test plans, and conducting testing. The Tester may have some involvement during the entire lifecycle of a project in order to ensure a depth of understanding of MCOLES business needs and project requirements. The Systems Tester will perform testing activities as assigned, managing a prioritized workload of problem reports and enhancements, maintaining program documentation, and reporting on task status.

Database Administrator – The Database Administrator is responsible for maintaining the production database. All application support related to Oracle databases and the MCOLES network functioning including web-related components of the production database are included. The Database Administrator will also be responsible for maintaining the Quality Assurance database located in Lansing (MCOLESMITNDV). The Database Administrator is responsible for day-to-day coordination of MCOLES Network database activities with MCOLES Network application staff, including the migration of changes for testing and production. The Database Administrator will also have a primary role in planning and implementation of the Oracle 10g conversion.

Network Technician – The Network Technician is responsible for maintaining the MCOLES Network web components and web server. The Network Technician assists with resolving server or other network-related problems and may be involved in discussions regarding the impacts of upcoming changes.

Help Desk – The Contractor Help Desk will be the emergency point of contact for reporting MCOLES Network problems. The help desk staff will receive the call and contact the key MCOLES Team member previously identified as the technical lead. The technical lead will make decisions and assignment to address the issue. This service will be



provided between the hours of 8:00 am and 10:00 pm Eastern Time, Monday through Friday excluding holidays. The toll free number is 1-866-850-1556.

Name	Role on MCOLES Network Contract	Total Months of Experience					
		IT	Oracle Forms and Reports	Web	Oracle DBA	Network	MCOLES Application
Susan Fitzpatrick	Technical Lead	226	105	4			30
Jen Maloy	Programmer Analyst	38		34			24
Paul Nagel	Programmer Analyst	132	87	36			41
Lori Wittrock	Systems Tester	266	48	128	128		1
Dennis Murphy	Database Administrator	318			318		35
Doug Mann	Network Technician	122				122	30
Darrin McLean	Network Technician	147				147	31

• **Exhibit 6 Application Support Team Total Experience**

The contractor must notify, in writing (email, fax or letter), the MCOLES Network Supervisor when identified staff will be unavailable for any extended period of time. Contractor must also identify staff that will serve as backup for the absent identified staff. All backup staff must be screened for compliance with the MCOLES security requirements in advance of beginning work in a backup capacity.

Contractor Staff Identification & Change Procedures

The contractor will originally identify all staff, including those who may serve in a backup role, and will request changes in personnel through the following process:

- Letter – requesting approval, delineating the chain of command, describing their experience and stating their status
- Resume – detailing MCOLES Network experience or other applicable experience, area of focus, amount of training/orientation to MCOLES Network, who currently on staff conducted the training, and the reason for the staff change
- Signed fingerprint card and information sheet – facilitating the approval of access rights
- Access documentation – specifying the type of access to the MCOLES Network servers the individual will need for the creation of user accounts.
- Full time or part time designation.
- Employee or contractor designation.
- Estimated hours available per month.
- Identification of current staff member being replaced, if applicable.

1.202 STATE STAFF, ROLES, AND RESPONSIBILITIES

The MCOLES Network Team will consist of members of the MCOLES as identified below. The MDIT will be responsible for the State's infrastructure and will work together with the MCOLES and the Contractor in maintaining the MCOLES Network infrastructure and responding to security, hardware and software issues that are server related and outside the scope of the Contractor's responsibilities.

MCOLES Network Project Manager – The MCOLES Network Project Manager is responsible for ensuring that all development is consistent with existing system operations and that all proposed system development is consistent with the laws, administrative rules, policies and procedures of the MCOLES. It is the responsibility of the MCOLES Network Project Manager to inform the Executive Director of the MCOLES of any MCOLES Network or MDIT related issues and to obtain input from the MCOLES management team on recommendations and funding. The project manager is also responsible for the approval of contract expenditures and ensuring the completion of all the daily paperwork required by MDIT to continue the project.

In addition, the MCOLES Project Manager will also be responsible for ensuring the following services are provided:

- State facilities, as needed



- Coordination of State resources necessary for the project
- Coordination between various external Contractors
- Communication between different State departments/divisions (IT-Networking, Integrated Services, Administration, Human Resources, Accounting, Administration etc.)
- Milestone acceptance sign-off
- Resolution of project issues
- Escalation of outstanding/high priority issues
- Approval and utilization of change control procedures
- Regular and ongoing review of the project to confirm that it meets original objectives and requirements
- Documentation and archiving of all important project decisions
- Assignment of MCOLES resources for project meetings, training and special project related assignments

MCOLES Network Supervisor – The MCOLES Network Supervisor is responsible for ensuring on a day-to-day basis that all changes, fixes, and development done on the MCOLES Network system are consistent with the direction provided by the MCOLES Commission through its strategic plan initiatives and its rules, policies and procedures.

The MCOLES Network Supervisor is also responsible for developing appropriate training materials for both internal and external MCOLES Network users. The MCOLES Network supervisor will also coordinate user participation with the MCOLES Network effort, establish priorities, resolve issues, and work with the Contractor's Technical Lead on a day-to-day basis for both application enhancement and maintenance activities. The MCOLES Network Supervisor is the intermediary for gathering information and decisions from the MCOLES Network Project Manager on policy and procedural matters affecting the MCOLES Network. The MCOLES Network Supervisor guides the evolution of the system by controlling system changes. This is done through reviewing and documenting requested changes, interacting with the Contractor's Technical Lead, bringing issues to the MCOLES Network Steering Committee and coordinating user testing of changes to the MCOLES Network.

MCOLES Network Specialist - The MCOLES Network Specialist is the MCOLES staff member responsible for ensuring the day-to-day operation of the MCOLES Network system. The MCOLES Network Specialist will oversee the line staff involved in the day-to-day operation of the MCOLES Network and provide them training and guidance. The MCOLES Network Specialist will work directly with the Section Manager of the Licensing Services Section in the establishment of security agreements, and policies and procedures for the operation of the MCOLES Network system. The Network Specialist also works directly with the Network Supervisor and Project Manager on all MCOLES Network related issues.

MCOLES Network Steering Committee – The MCOLES Network Steering Committee is made up of representatives from the MCOLES based on their knowledge of business practices and responsibilities. The MCOLES Network Project Manager serves as the chair of the MCOLES Network Steering Committee. In addition to the MCOLES Network Project Manager, the Steering Committee will include the MCOLES Network Supervisor, MCOLES Network Specialist, the Section Manager of the Licensing Services section and a representative of the MCOLES Standards Compliance Section. Others may be included as needed. The steering committee reviews change requests submitted by the MCOLES Network Supervisor and determines the priority of requests.

The MCOLES Network Steering Committee will also provide the following services:

- Approve changes to the project schedule
- Authorization for modifications to the scope, resources, and budget of the project
- Maintenance of senior management commitment to the project
- Final arbitration on proposed changes that significantly affect the business interests of the MCOLES.

The MCOLES Management Team will represent the sections and will provide the vision for the business design and how application shall provide for that vision. They shall be available on an as needed basis and will be led in discussion and



decision making by the chair of the MCOLES Network Steering Committee. The MCOLES Management Team will be empowered to:

- Resolve project issues in a timely manner
- Review project plan, status, and issues
- Resolve deviations from the project plan
- Provide acceptance sign-off for large or controversial changes or enhancements
- Utilize change control procedures
- Ensure timely availability of State resources

Issues shall be escalated for resolution from level 1 through level 4, as defined below:

- Level 1 – MCOLES Network Supervisor
- Level 2 – MCOLES Network Project Manager
- Level 3 – MCOLES Network Steering Committee
- Level 4 – MCOLES Senior Management

In addition, the following State personnel/resources may be required at stages of the project. The Contractor must make every effort to provide the MCOLES manager with advance notice of when these services may be required. It will be the responsibility of the MCOLES project manager to obtain needed services including:

- MDIT Systems Analyst
- MDIT Application Administrator
- User Implementation Coordinator
- MDIT Network Administrator
- MDIT Database Administrator
- Remote access to test database environment

MDIT shall provide a Contract Administrator whose duties shall include, but not be limited to, supporting the management of the Contract.

1.203 OTHER ROLES AND RESPONSIBILITIES

None

1.3 Contract Management

1.301 CONTRACT MANAGEMENT

C. Orientation Meeting

4. **Ten (10)** calendar days from execution of the Contract, Contractor will be required to schedule an orientation meeting to discuss the content and procedures of the Contract.
5. The meeting will be held in Lansing, Michigan, at a date and time mutually acceptable to the MCOLES and the Contractor.
6. The State shall bear no cost for the time and travel of the Contractor for attendance at the meeting.

D. Performance Review Meetings

4. The State will require the Contractor to attend meetings **semi-annually** to review the Contractor's performance under the Contract.
5. The meetings will be held in Lansing, Michigan, at a date and time mutually acceptable to the MCOLES and the Contractor.
6. The State shall bear no cost for the time and travel of the Contractor for attendance at these meetings.

1.302 REPORTS

Reporting formats must be submitted to the MCOLES Network Program Manager for approval within **30** business days after the effective date of the contract resulting from this RFP. Once both parties have agreed to the format of the report, it shall become the standard to follow for the duration of the contract including:

- Weekly Project status
- Updated project plan
- Summary of activity during the report period
- Accomplishments during the report period
- Deliverable status
- Schedule status



- Action Item status
- Issues
- Change Control
- Repair status
- Maintenance Activity

Priority and Status Meetings

The MCOLES Network Supervisor will plan, schedule, and conduct a MCOLES Network priority and status meetings As needed. These meetings provide an opportunity for the MCOLES and the Contractor to monitor progress and address issues related to problem determination and resolution.

Usually, status meetings will be attended by the

- MCOLES Network Supervisor,
- Contractor's Technical Lead, and
- Others as needed determined by topic.

Management Tools

The Contractor must use the same set of tools and techniques utilized in the Development phase of the MCOLES Network as control mechanisms to deliver quality services that meet user requirements and expectations while keeping the application support activities on schedule.

Responses to MCOLES Written Requests

Written requests from the MCOLES are typically requests for unusual or irregularly scheduled activities. These requests originate from the MCOLES Network Supervisor and are submitted to the Contractor's Technical Lead.

The Contractor's Technical Lead will review the written request and arrange for one of the following actions to take place:

- The request is forwarded to an application support team member who satisfies the request within five (5) days.
- A written estimate of the time required to satisfy the request and an estimated completion date is returned to MCOLES within ten (10) days (if applicable).
- The Contractor's Technical Lead advises MCOLES within five (5) days that the request cannot be satisfied.
- The Contractor's Technical Lead advises MCOLES within five (5) days of a date on which one of the above responses will be made.

Application support will be requested, documented, and responded to by the Contractor in compliance with the predefined TIR procedure.

The Contractor will report progress to the MCOLES Network Supervisor with copies to the MCOLES Network Project Manager and the MCOLES Network Specialist, when system work is being done.

1.4 Project Management

1.401 ISSUE MANAGEMENT

During the course of a system development effort or IT project, it is inevitable that issues will arise periodically. Such issues must be dealt with quickly and efficiently to mitigate their effect on the project. Many such issues can be addressed at the project management level, and others must be escalated. Issue resolution is most successful as a team effort. Issues are handled best if they are documented and remain visible until their resolution. Northrop Grumman will document and track issues as they arise.

If an issue cannot be resolved at the project level, it will be elevated to executive management within customer organization and Northrop Grumman for resolution. Elevating the issue to a more senior level within the respective organizations has many benefits. First, and most desirable, is that the project staff can continue to work together on the daily tasks without the potentially disruptive nature of unresolved issues. Second, the most important issues remain visible at the Customer and Northrop Grumman executive levels until they are resolved.



An Issue Resolution Request (IRR) will be completed documenting the nature of the issue, impact of the issue, required response date, person responsible for issue resolution, and recommended response, as appropriate. The issues will be reviewed at status meetings and addressed in monthly status reports. The issue will be reviewed weekly until resolution is reached.

Issue Resolution Requests will be tracked using Issue Resolution Request Logs maintained by the Northrop Grumman Project Manager, or another tracking mechanism as identified by MCOLES and MDIT. The logs will be attached to a monthly status report and will be discussed at status meetings.

1.402 RISK MANAGEMENT

A risk is an unknown circumstance or event that, if it occurs, may have a positive or negative impact on the Contract. Risk management generally involves (1) identification of the risk, (2) assigning a level of priority based on the probability of occurrence and impact to the project, (3) definition of mitigation strategies, and (4) monitoring of risk and mitigation strategy.

The Contractor must create a risk management plan. A risk management plan format shall be submitted to the State for approval within twenty (20) business days after the effective date of the contract. Once both parties have agreed to the format of the plan, it shall become the standard to follow for the duration of the contract. The plan must be monitored and updated bi-weekly, or as agreed upon. The risk management plan will be developed in accordance with the State's PMM methodology and the PMBOK® (Project Management Institute).

The contractor must define risks identified as being significant to the success of the project. Include how you would propose to effectively monitor and manage these risks, including reporting of risks to the State.

The contractor employs a process of identifying issues to mitigate risks. This process includes taking a top-level approach for risk mitigation defined during risk assessment and defining detailed plans to reduce or control each project risk. Risk management components are presented in the following table.

Component	Description
Risk Identification	Identify specific risks.
Risk Severity	Determine the consequences of risk occurrence.
Risk Probability	A general assessment (high, medium, low) of the likelihood of the risk occurring.
Risk Response	The response that is chosen to address the specific risk.
Response Strategy	Specific actions to be taken if the risk becomes realized.

The contractor must apply the risk management methodology to manage risks identified by the project team. Risk documentation provides a detailed description of each risk component, including the response and response strategy associated with a risk. Risks to the successful delivery of work under the contract are addressed at status meetings where the risk response and response strategy are reviewed, agreed upon and monitored.

1.403 CHANGE MANAGEMENT

Change management is defined as the process to communicate, assess, monitor, and control all changes to system resources and processes. The State also employs change management in its administration of the Contract.

If a proposed contract change is approved by the State's Project Manager and the Contract Administrator, the Contract Administrator will submit a request for change to the Department of Management and Budget, Purchasing Operations Buyer, who will make recommendations to the Director of Purchasing Operations regarding ultimate approval/disapproval of the change request. If the DMB Purchasing Operations Director agrees with the proposed modification, and all required approvals are obtained (including State Administrative Board when applicable), the Purchasing Operations Buyer will issue an addendum to the Contract, via a Contract Change Notice. **Vendors who provide products or services prior to the issuance of a Contract**



Change Notice by the DMB Office of Purchasing Operations, risk non-payment for the out-of-scope/pricing products and/or services.

The Contractor must employ change management procedures to handle such things as “out-of-scope” requests or changing business needs of the State related to any approved enhancement based on an approved statement of work. .

The Contractor shall employ the change control methodologies to justify changes in the processing environment, and to ensure those changes will not adversely affect performance or availability.

The contractor will use a variety of control mechanisms to manage change during an enhancement that are built into the contractor's project management methodology. These mechanisms include:

- Meeting minutes for each design session conducted
- Requirements Traceability Matrix (RTM)
- Decision/Information Requests (DIR) as needed
- Project Change Requests (PCR) as needed
- Issue Resolution Report (IRR) as needed
- Deliverable development and acceptance procedures
- Deliverable documentation including various design and planning documents

1.5 Acceptance

1.501 CRITERIA

The MCOLES Network system must be maintained according to all existing style and function standards established through the joint application design (JAD) process. Any change to look and feel or functionality must be pre-approved by the MCOLES prior to work being started and, subsequently tested by the MCOLES prior to implementation. All applicable state of Michigan and MDIT standards for web and application development must be adhered to.

1.502 FINAL ACCEPTANCE

Final acceptance of any component or enhancement will be formally executed in writing by the MCOLES and the Contractor after all issues identified during UAT have been resolved, tested and accepted. For enhancements, payment will be made dependent upon the criteria as stated in each individual approved statement of work and accepted contractor response upon acceptance/sign off by the MCOLES and MDIT project managers is made in writing. Final acceptance does not negate the warranty requirement specified in 1.104.E.3.e.

1.6 Compensation and Payment

1.601 COMPENSATION AND PAYMENT

The Contract is firm, fixed priced for monthly maintenance, time and materials for small scale enhancements and fixes to existing functionality and deliverable-based for enhancements requiring a statement of work and design sessions for new development. Maintenance service and minor enhancements and changes will be invoiced on a monthly basis.

4. The Contractor may be asked to provide up to 3000 hours annually for major customizations, enhancements and modifications to the system to meet new requirements identified during the term of the contract. These hours will be proposed as a firm, fixed price and will need to be supported by a statement of work mutually agreed upon by the State and contractor. If the State does not use all the hours in one year the remaining hours will roll over into the next year of the contract and be added to the 3000 hours available for that year and will be available for required changes. Payment will be made based on acceptance of each deliverable as defined in 1.502. Deliverables will be either physical deliverables (documents) or service deliverables. Physical deliverables will be invoiced upon acceptance of the deliverable.
5. The State will not pay for any travel expenses, including hotel, mileage, meals, parking, etc.



6. Payment

- iii. For maintenance and minor enhancements based on TIRs payment will be made monthly.
- iv. For major enhancements based on a statement of work, payment will be made dependant upon the criteria as stated in each individual statement of work and accepted contractor response upon acceptance/signoff by the MCOLES and MDIT project managers.

1.7 Additional Terms and Conditions Specific to this SOW

1.701 ADDITIONAL TERMS AND CONDITIONS SPECIFIC TO THIS SOW

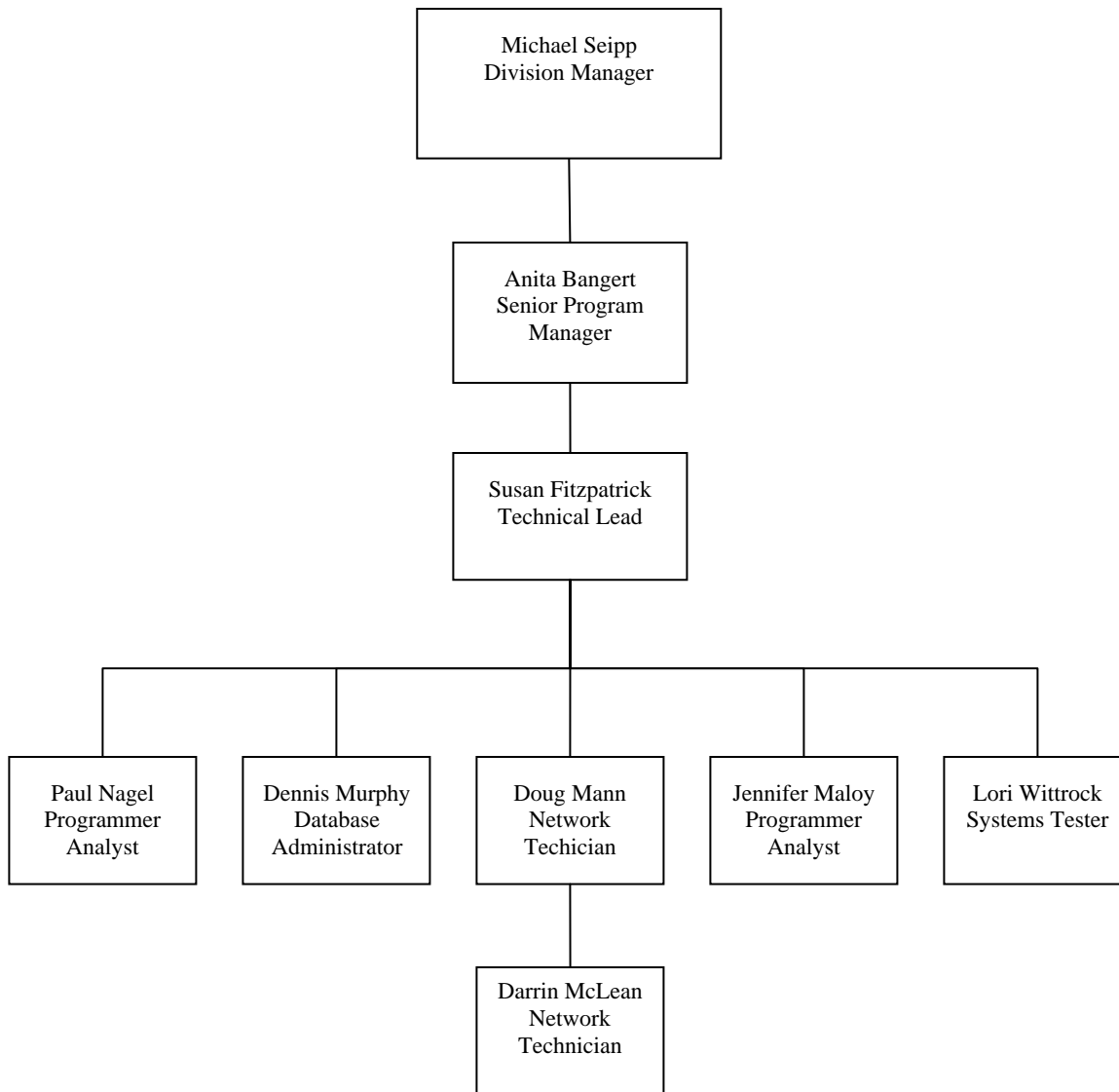
- B. **Other Contractors** - The State has and/or may contract with other entities to perform technical services or provide other equipment and software to work with the items provided under this contract. The Contractor agrees to work with these other entities and provide them necessary technical information and required support to accomplish the efforts required by the contract with the State.

*Article 1, Attachment A*

Michigan Commission On Law Enforcement Standards
MCOLES Network Maintenance Contract
Statement of Work
Appendices

<u>Appendix</u>	<u>Document</u>
A	MCOLES Needs Analysis
B	MCOLES Network System Requirements
C	MCOLES Network Detailed Design Document
D	MCOLES Network Conversion Plan
E	MCOLES Network Test Plan
F	MCOLES Network Client/Server User Guide
G	MCOLES Network Web User Guide
H	MCOLES Network Business Process Flow Charts
I	MCOLES Network Architecture
J	MDIT Statement of Work Technical Requirements
K	MCOLES Network Oracle 10g Upgrade Plan

Article 1, Attachment B
Organizational Chart, including Identified Personnel





SUSAN M. FITZPATRICK

Technical Lead

Ms. Susan Fitzpatrick is a Northrop Grumman Project Lead with over 20 years of information technology experience. She is a permanent, full time employee with over 8 years of experience with Northrop Grumman. Susan is currently the Technical Lead for the State of Michigan MCOLES Information and Tracking Network System (MITN), and has been a member of the MITN team since 2004.

Susan is assigned to the MCOLES Network project as the Technical Lead. The amount of time Susan will dedicate to this contract will depend on the number of enhancements being requested and the size and type of projects. She can continue to be committed 60% of her time at a minimum based on the maintenance and enhancements being requested

EDUCATION:

B.S., Computer Science, Oregon State University, Corvallis, Oregon, 1986
Chemeketa Community College, Salem, Oregon, 1982 – 1984

EXPERIENCE:

Northrop Grumman

November 1997 to Present

Susan is a Project Leader on the client/server team. She has been responsible for estimating and budgeting time and resources for projects, defining system requirements, facilitating JAD sessions, writing technical documentation, designing and modeling databases, and designing, developing, testing and implementing Oracle client/server applications including systems with Internet web components.

MCOLES Information and Tracking Network (MITN) Project

Susan is the project leader for an Oracle client/server and web system for the Michigan State Police. She leads a team of developers, and works closely with the network and DBA staff, to maintain the system application, databases and web servers. Her responsibilities include assisting with requirements analysis and definition; managing work assignments; developing, maintaining, testing; and documenting changes for system modules including Oracle forms, reports and batch procedures; and mentoring and providing technical assistance to teammates.

Montana Department of Fish, Wildlife & Parks (FWP) Support Project

Susan works onsite enhancing the existing FWP systems. Her responsibilities include developing and maintaining database objects, researching and analyzing current processing, defining and presenting solutions, estimating and writing specifications, developing and maintaining system modules, including Oracle Forms, Reports and batch procedures, and fully testing and documenting all enhancements

Scenario Builder System Project

Susan was a lead on the development project for the Montana Department of Fish, Wildlife & Parks (FWP). The Scenario Builder system provides the ability to calculate and project personal services cost with scenarios related to pay raises for employees. This system was integrated into the FWP Budget Allocation System sharing common data elements. Susan's responsibilities included facilitating JAD sessions with the client, defining the system requirements, designing the Oracle modules for the system, designing and reviewing the Oracle database structure, assisting the client in User Acceptance Testing, and tracking time for resources assigned to the project. Susan led a team of three Oracle developers and testers developing, testing, and implementing the system. Susan was also responsible for integrating the Scenario Builder system into the FWP Budget Allocation System following its implementation.

Central Database System (CDS) Project

Susan was a developer and lead on the Oracle client/server development project for the Intergovernmental Human Services Bureau (IHSB) of the Department of Public Health and Human Services. CDS provides a centralized repository for client, household and service information used for maintaining and reporting services



provided through Community Services Block Grants (CSBG) funding. Susan's responsibilities included the development and maintenance of the Oracle Forms and Reports and batch procedures for the LIEAP integration into CDS.

Administrative Rules of Montana (ARM) Project

Susan was assigned to lead an Oracle client/server development project for the Secretary of State. This project automated the processing and publication of the Montana Administrative Register and Administrative Rules of Montana through the use of an Oracle database and application, and macro-driven word processing. Susan lead and managed a team of two Oracle developers during system requirements, Oracle database design, and development and implementation of the MS Word Macros, Oracle Forms, Oracle Reports, and Batch Procedures modules for the system.

Public Health Data System (PHDS) Project

Susan was assigned as a technical lead on an Oracle client/server development project for the Department of Public Health and Human Services. This project integrated and standardized the collection and use of public health data within local health departments, and eliminated redundant data entry of client demographic and service related information across multiple public health programs. Susan was responsible for modeling the Oracle database, and generating and developing the Oracle Forms for the system. Susan also assisted other team members with the development of the Oracle Forms and using the Oracle Designer and Oracle Developer tool sets

Sharing Of Public Health Information (SOPHI) Project

Susan was assigned as a project leader on an Oracle client/server development project for the Department of Public Health and Human Services. This project used Oracle Web-Server technology to send and receive client referrals from one public health program to another on a statewide basis. The system also provides the capability of inquiry and maintaining client demographic data in a centralized Phone Book repository. Susan was responsible for defining the system requirements, designing the Oracle Forms and Internet Web Pages, and reviewing development of the Oracle database. Susan generated and developed the Oracle Forms portion of the system using the Oracle Designer and Oracle Developer tool sets. Susan also managed and assisted in the development of the web component of the system.

The Eligibility Screening System (TESS) Project

Susan led the technical development of an Oracle client/server system for the Department of Public Health and Human Services. The Eligibility Screening System (TESS) was designed to determine eligibility for the Mental Health Service Plan (MHSP), Children's Health Insurance Plan (CHIP) and Presumptive Eligibility programs. The Mental Health Services Service Plan was Phase I of the TESS Project. Susan led a team of five Oracle developers during the generation and development of the Oracle Forms and Oracle Reports for this phase of the system. The Children Health Insurance Plan was Phase II of the TESS Project. Susan was responsible for the modeling and designing the prototype for the CHIP phase using the Oracle Designer and Oracle Developer tool sets, documenting the Oracle Form specifications and reviewing the enhancements to the Oracle database during this phase of TESS. She also led and managed a team of four Oracle developers during the generation and development of new and existing Oracle Forms, Oracle Reports and Batch Procedures. Susan performed system integration testing of the changes for CHIP with the existing MHSP processes in TESS.

Mailing Label System Project

Susan led the development of a centralized Mailing Label System for the Department of Public Health and Human Services. This project was developed in an Oracle 8 client/server environment using Oracle Forms and Oracle Reports to produce and maintain lists of mailing labels for administrative purposes.

Legislative Automated Workflow System (LAWS) Project

Susan was assigned as a client/server developer in an Oracle client/server development project for the Legislative Services Division of the State of Montana. This project replaced the current mainframe Bill Status system that provided information on the status of bills throughout the legislative session. The system was composed of four components: Oracle forms for adding and maintaining bill information on the Oracle database; WordPerfect 8 macros for processing the current bill drafts using a GUI environment to interface into the new Oracle application; Oracle reports for reporting; and Internet for providing public access bill search and



inquiry capability using Oracle Web-Server technology. Susan was responsible for developing the Oracle Forms portion of the system and assisting other team members with the development of the Oracle Reports and Internet Web pages.

State of Montana

July 1989 to October 1997

Susan was a Programmer/Analyst and Systems Analyst in the Information Services Division (ISD), Department of Administration. She was responsible for developing and supporting several systems including the Active and Retiree systems for the Public Employees' Retirement Division, and the Corporations and Uniform Commercial Code (UCC) systems for the Secretary of State's Office. Susan was responsible for all aspects of systems development life cycle activities including business systems analysis, systems design and construction, implementation, and project planning and management.

The development of the Public Employees' Retirement Division (PERD) New Active System Project was a large complex system rewritten from a partially automated batch-oriented tape system to an online-oriented IDMS database system. The system was designed as a phased development project including preliminary analysis, prototyping, system test and installation. Susan was responsible for the analysis and implementation of both the online and batch processing subsystems and project management. The project included interfacing the new system with the existing PERD Retiree System.

Susan was also assigned to the Montana's Secretary of State OPPEN project. This project was a comprehensive reengineering project for the Secretary of State's office. The pilot phase of this project was developing the Uniform Commercial Code system on a client/server platform using Oracle relational database and application software. Her duties involved the in-depth documentation of the existing system and the definition of the functionality requirements for a new system.

Susan coordinated the Year 2000 Project. This included defining and implementing a comprehensive Year 2000 Compliance Plan for all hardware, software and applications owned and supported by the division.

Boeing

October 1988 to May 1989

While at Boeing, Susan worked on a Boeing test team as a temporary employee. This was a short-term, high intensity activity involving people from several different companies to create and use test data for the project. Her responsibilities included setting up, maintaining and documenting a system to organize and track all test data, including nearly 25,000 pages of data products. Susan wrote computer programs using the SMART Command Language (Similar to Pascal) and Database system on an IBM compatible microcomputer to accomplish some of the most critical and complex data reduction problems required for the project.

Electronic Data Systems

October 1986 to December 1987

While with Electronic Data Systems, Susan worked on the Blue Cross and Blue Shield of Montana account. She was the liaison between the customer and the programmers. Susan was responsible for maintaining the Claims Processing System. This included defining and analyzing enhancement requests from the customer, and testing and documenting the changes made by the programmers before and after installation.



JENNIFER A. MALOY
Programmer Analyst

Miss Jennifer Maloy is a Northrop Grumman Programmer Analyst with over 2 years of professional IT experience. Jen has already earned a Northrop Grumman Excellence Award for exceptional workplace performance. She is a permanent, full time employee with Northrop Grumman, and is currently a web programmer for the State of Michigan MCOLES Information and Tracking Network System (MITN). Jen has been a member of the MITN team since 2004.

Jen is assigned to the MCOLES Network project as the Web Programmer Analyst on a part-time basis.

EDUCATION:

B.S., Computer Science, Gonzaga University, Spokane, Washington, 2004
Magna cum Laude

EXPERIENCE:

Northrop Grumman

July 2004 to Present

Jen is a Software Engineer on the web application team. She designs, develops, tests, and implements application modules for software development projects. Her responsibilities include participating in all phases of the software design and development lifecycle; analyzing business/system requirements and preparing detailed design specifications; developing code; performing unit, system, and integration testing; analyzing application problem reports, making appropriate modifications; and testing results; preparing deliverables such as design, system, and operations documentation; participating in design and code walkthroughs; interacting with customer and system user representatives to gather and clarify system requirements and specifications; planning and monitoring assigned tasks and deadlines; reporting regularly on the status and estimates to completion of assigned tasks; and providing technical guidance for other team members.

Michigan Information and Tracking Network (MITN) Project

Jen is a Java web developer for an Oracle client/server and web system for the Michigan State Police. Her responsibilities include developing, maintaining, testing and documenting the changes for the system's web modules, as well working with the Network/DBA staff to deploy .ear files to the MITNDV and MPRD environments. She writes PL/SQL back-end procedures to be used by both the web modules and the client/server modules. Jen also has security clearance to the MITNDV and MPRD systems; she has fixed Production data errors on numerous occasions, and played a major role in resolving the Web Replication issue.

Syndromic Surveillance Project

Jen is the project leader and Java web developer for a web and GIS system for the Communicable Disease Control & Prevention Bureau of the Health Policy & Control Division of the Montana Department of Public Health and Human Services. She works with DBAs from both Northrop Grumman and the State of Montana to maintain the system application, databases, web servers, and GIS servers. Her responsibilities include assisting the customer to analyze and define requirements; providing the customer with monthly status reports; and developing, maintaining, testing and documenting the changes for the system's web and GIS modules. Additionally, this system receives its data from hospitals, and Jen assists the technical and non-technical staff of the hospitals in mastering the required data format.

Adult Protective Services (APS) Project

Jen was a Java web developer for a web system for the Adult Protective Services of the Montana Department of Public Health & Human Services. She developed, tested, and documented many of the system's web modules, helping the project to finish on-time and with a very low number of problem reports. After the system's web modules were completed, Jen also helped the conversion effort by writing PL/SQL procedures that were needed to convert data from the old Mainframe system to the new web system.

Combined Healthcare Information and Montana Eligibility System (CHIMES) Project



Jen is a Java web developer for a web system for the Montana Department of Public Health & Human Services. Initially, she joined the CHIMES team as an Oracle developer, writing PL/SQL procedures needed to convert data from the old Mainframe system to the new web system, but when the conversion effort was finished, she was asked to begin developing web pages. Jen's responsibilities include developing, testing and documenting the system's web modules that are assigned to her.

CTE Registration & Competition Software Project

Jen is an ASP.NET 2.0 C# web developer for a web system for the Montana Office of Public Instruction. Her responsibilities include developing, testing and documenting the system's web modules that are assigned to her.

Gonzaga University and Avista Utilities September 2003 to April 2004

As a Senior Design Project, Jen was a Programmer/Analyst for a miscellaneous billing application for Avista Utilities' Accounting Department. The project involved consolidating Avista's current system of Excel spreadsheets into a single web-based graphical user interface (GUI) using ASP.NET and VB.NET. Her responsibilities included gathering requirements, designing the database, developing, testing and documenting the system's web modules, and training the end users.

Avista Utilities May 2003 to August 2003

Jen was a Student Programmer/Analyst for the Gas Planning Department at Avista Utilities. She created three applications that allowed a graphical user interface (GUI) environment in ArcMap to calculate gas pipe pressures for entire cities. This process involved converting an ArcGIS geodatabase of gas pipes into an Advantica Stoner SynerGEE MDB.



PAUL NAGEL
Programmer Analyst

Mr. Paul Nagel is a Northrop Grumman Programmer Analyst with 11 years of information technology experience, with more than 7 years experience working in Oracle Forms, Oracle Reports, Oracle Web, SQL and PL/SQL. He is a permanent, full time employee with over 11 years of experience with Northrop Grumman. Paul is currently the System Analyst for the State of Michigan MCOLES Information and Tracking Network System (MITN), and has been a member of the MITN team for three years.

Paul is assigned to the MCOLES Network project as a Programmer Analyst on a part-time basis.

EDUCATION:

B.A., Montana State University – Northern, Havre, Montana, 1995

EXPERIENCE:

Northrop Grumman August 1995 to Present
MCOLES Information and Tracking Network (MITN) Project

Paul is assigned as a client/server developer for Michigan State Police. His responsibilities include the development and maintenance of the Oracle Reports and Forms, and PL/SQL back-end processes.

Childcare Under the Big Sky (CUBBS) System

Paul is assigned as a client/server developer for the Montana Department of Public Health and Human Services. Paul's responsibilities include facilitating JAD sessions with the client, creating functional and technical documents, developing and implementing the specified changes. Paul is also responsible for maintaining the Oracle Forms, Oracle Reports and PL/SQL back-end processes.

Professional and Occupational Licensing System (POL)

Paul is assigned as a client/server developer for the Montana Business Standards Division. Paul's responsibilities include facilitating JAD sessions with the client, creating functional and technical documents, maintaining the Oracle Forms, Oracle Reports and PL/SQL back-end processes and implementing the specified changes.

HIV Safe Project

Paul was assigned as a client/server and web developer for the Montana's Department of Public Health and Human Services. His responsibilities included facilitating JAD sessions with the client, creating functional and technical documents maintaining the Oracle Forms, Oracle Reports and PL/SQL back-end processes and implementing the specified changes.

Legislative Automated Workflow System (LAWS)

Paul was assigned as a client/server and web developer for the Montana Legislative Services. Paul's responsibilities included facilitating JAD sessions with the client, creating functional and technical documents based on the client meetings and implementing the changes specified in the functional and technical documentation. Paul was also responsible for the maintenance of Oracle Forms, Oracle Reports, Oracle Web and PL/SQL back-end processes.

Criminal History Record Information System (CHRI)

Paul was assigned as a client/server developer for the Maine Department of Public Safety. Paul developed the Oracle forms for the system and created the documentation for the system.

Child Care Core System

Paul was assigned as a client/server developer for the project. Paul supported the system as an Oracle Forms, Oracle Reports and PL/SQL developer. His responsibilities include participating in JAD sessions, creating forms and reports as well as the development documentation for the forms and reports.

The Economic Assistance Management System (TEAMS)

Paul was assigned as a Main Frame developer for Montana Department of Public Health and Human Services. Paul was responsible for maintaining the ADSO, MAPC and COBOL modules of the TEAMS application.



LORI WITTROCK Systems Tester

Ms. Lori Wittrock is a Northrop Grumman Test and Evaluation Analyst with 22 years of information technology experience, specifically with insurance, pension and financial systems in both the public and private sectors. Her experience includes all aspects of the systems life cycle in web-based, client/server and mainframe environments. Lori has worked on state government projects in Montana, Colorado, Minnesota, and North Dakota since 1992. While she continues to participate in the entire life cycle of projects, in the last few years she has focused more of her time on test efforts; both internal system testing and assisting clients with their user acceptance testing. She is a permanent, part time employee with over 2 years of experience with Northrop Grumman.

Lori would be assigned to the MCOLES Network project as a Systems Tester on a part-time basis.

EDUCATION:

B.S., Mathematics, with a minor in Music, Fort Hays State University, Hays, Kansas, 1984.

EXPERIENCE:

Northrop Grumman

March 2004 to Present

Lori is a business analyst and software tester for a new computer web-based implementation of the State's health care eligibility services (Medicaid). As a business analyst on Combined Healthcare Information and Montana Eligibility System (CHIMES) team she participates in client JADs and creates detailed design specifications for the collection of household relationships and family resource data, the creation of correspondence and interfacing to the federal Center for Medicare and Medicaid Services.

Lori is also assigned to the MCOLES Information and Tracking Network (MITN) Project. She performed system testing for the Licensing Exam Automation enhancement.

BearingPoint, Inc.

May 1998 to March 2004

Lori was a business analyst and developer assigned to various clients. She performed business development tasks that included writing a variety of proposals and RFP responses such as the State of Montana's Master Services contract and multiple requests resulting from the No Child Left Behind act.

North Dakota Unemployment Insurance Division

Lori managed the customization and implementation of a workflow system provided by a subcontracted vendor.

Minnesota Department of Employment and Economic Development

Lori was a business analyst responsible for identifying requirements and business functions necessary for the implementation of a comprehensive web-based Unemployment Insurance system incorporating both employer and applicant requirements.

Montana Department of Environmental Quality

Lori developed a conversion and load process from the federal Environmental Protection Agency for hazardous waste.

Montana Department of Commerce, Travel Montana

Lori acted as engagement controller for this client. She worked on several aspects of a system that tracks locations and amenities of Montana tourist attractions. Lori performed database analysis and data conversion from the existing Microsoft Access application to an Oracle database, modified the customer web application to point to the new database, and provided individual training and technical assistance to the lead Oracle developer to create an Oracle Forms based system to maintain the Tourism database.

Montana Teacher's Retirement System

Lori managed the testing, documentation and training for a PeopleSoft implementation of their Pension Administration with a 70% customization including a Web component. The testing component included leading



a team of four testers (including two client members) in the development of a master test plan, user orientation, detailed test scripts, maintaining regression and unit test bed, and overseeing defect tracking and resolution.

Montana Department of Labor, Unemployment Insurance

Lori managed one of four functional tracks on a custom-developed Oracle client-server application (MISTICS) that replaced the existing legacy system. Functional areas in the track included performing fact-finding, creation and processing of non-monetary and other issues, and correspondence using an interface to MS Word mail merge facility.

Lori organized and led a six-month training effort to transition the MISTICS unemployment insurance system maintenance to the in-house IT staff. The training involved general overviews of seven key aspects of the system, detailed discussions of each, and in-depth exercises designed to cover the wide range of topics. Lori also provided mentoring and other support on an ongoing basis.

Lori acted as engagement controller for this client. As project manager, she implemented new federal legislation to provide an additional benefit to workers in the airline and other industries affected by 9/11.

Information Engineering, LLC

February 1992 to May 1998

Lori was a business analyst and developer involved in all aspects of the systems development life cycle.

Montana State Compensation Insurance Fund

Lori served as a business analyst and developer for BIS system written to replace their mainframe claims system with a client/server system. She led the Testing and Training phases of the project. Lori also worked in a mentoring role with the MIS department to provide technical assistance for PowerBuilder and Oracle along with claims system expertise.

North Dakota Workers' Compensation Bureau

Lori served as a business analyst and user liaison for a version of the Montana claims application customized for North Dakota that replaced the legacy claims application on the mainframe. She identified changes to the base application and performed technical reviews.

Colorado Compensation Insurance Authority

Lori developed an Agents subsystem to Policy Services; performed risk analysis for New Policy Services area;

Colorado Department of Labor, Division of Workers' Compensation

Lori was involved in the entire life cycle of a Special Funds compensation and medical system for "hard-luck" cases, including project planning, design, development, testing, training, and warranty maintenance. She developed claims adjudication and docketing system.

Berger & Co.

April 1991 to January 1992

Lori designed and developed portions of an insurance billing system, balancing system for credit card merchant billing, and resource usage of IT provided services for a manufacturing corporation.

Forest Oil, Inc.

June 1987 to March 1991

While at Forest Oil, Inc, Lori held several different positions. She was involved in the project planning for the installation of Artesia Data Systems land management process. Lori was a developer in the conversion and re-write of Engineering Data Information System from mainframe DB2 system to AS/400 using Synon CASE tool. Lori was an analyst for studying feasibility of converting company mainframe to AS/400. She was involved in the requirements analysis, RFP development, and vendor selection for new oil and gas revenue system. She was a Programmer/Analyst providing enhancements and maintenance to oil company computer systems including Revenue, Accounts Payable, and 1099 Reporting. Lori was responsible for Accounts Payable (Walker) system. Her duties included installing and retrofitting upgrades to the package, decentralizing processing to division offices, and general maintenance support.

**Conoco, Inc.**

June 1984 to May 1987

Lori designed and developed major on-line General Ledger system replacing a 20-year old transaction based accounting system. She supervised a financial accounting consolidation system which received financial data from over 140 subsidiaries.



DENNIS MURPHY
Database Administrator

Mr. Dennis Murphy is the DBA Manager and an Oracle Database Administrator for Northrop Grumman with over 24 years of data processing and information technology experience. He is a permanent, full time employee with over 5 years of experience with Northrop Grumman. Dennis is currently the Oracle DBA for several Oracle systems that have been developed and are maintained for the State of Montana, the State of Wyoming, the State of Michigan, and the State of Delaware. He has been a member of the MITN team since 2003.

Dennis is assigned to the MCOLES Network project as the Database Administrator Manager on a part-time basis.

EDUCATION:

B. S., Accounting, Montana State University, Bozeman, Montana, 1977.

EXPERIENCE:

Northrop Grumman

July 2001 to Present

Dennis is a database administrator manager and is responsible for directing the work of Oracle and IDMS database administrators, administering Oracle development databases, keeping databases up and available, ensuring backups and recoveries are current, adding users to databases, and keeping database software current. Dennis also creates and maintains database models in the Oracle Designer and Computer Associates ERWin modeling tools. Dennis has installed Oracle Fail-Safe software and was the DBA for the development of a SQL server database for the State of Delaware.

Prior to being a database administrator manager, Dennis worked as a database administrator. As a DBA, Dennis performed database administration activities on development and test databases for the Northrop Grumman Northwest Engagement Center. He used Oracle Designer to model databases and generate code to add and modify objects in the database, performed tuning and troubleshooting as required, and moved data between production and test environments.

Unisys

August 1999 to June 2001

While employed by Unisys, Dennis was a Technology Architect that participated in system and database design for the Montana POINTS project. He maintained a model of the database in Oracle Designer and generated objects as requested for the development database.

Montana Power Company

March 1980 to August 1999

While employed by the Montana Power Company, Dennis worked as a DBA and administered production Enterprise-wide Oracle 7 databases on UNIX platforms for two coal mining companies. He exported data from the production databases, imported the data into test and training database, backed up databases, and performed recoveries. He administered Microsoft SQL Server database installations, supported applications, and was responsible for Y2K compliance of Oracle database software.



DOUGLAS J. MANN
Network Technician

Mr. Doug Mann is a Northrop Grumman System Administrator/Manager with over 11 years of experience in the information technology arena, engineering and supporting Local Area and Wide Area networks for both internal and external customers. He is a permanent, full time employee with over 10 years of experience with Northrop Grumman.

Doug is assigned to the MCOLES Network project as the Network Manager on a part-time basis.

EDUCATION:

A.A.S., Computer Technology, Helena College of Technology of the University of Montana, Helena, Montana, 1996

BA, Psychology, Second Major, Sociology, University of Montana, Missoula, Montana, 1994

Diploma, Computer Information Management, Trend Business College, Spokane, Washington, 1989

EXPERIENCE:

Northrop Grumman

July 1996 to Present

Doug is the Network Manager and manages the Helena, Montana node of the Northrop Grumman Global Network. He coordinates the site's participation in this large, highly secure, and extremely diverse network that spans the world. He is the lead technical resource for internal information technology support and oversees network support for several external contracts. Doug is responsible for the administration of a NetWare 6.0 network, including a three-node cluster and a Windows 2000 Active Directory network. He sets the direction for other staff members and the future infrastructure of the site. He provides mentoring and training to other staff members. Doug also works with the State of Montana customers to ensure successful knowledge transfer when migrating production environments and applications to the State for operations and maintenance. Since March 2004, Doug has been responsible for the administration of the internal Oracle 9i Application Server as well as client Oracle 9iAS servers. His duties include the planning and installation of patches, deployment of applications, migrations to servers, and installation of Verisign Server certificates, along with basic maintenance.

Delaware Electronic Reporting and Surveillance System (DERSS), October 2003 to December 2004

Doug was responsible for the engineering, implementation, and maintenance of the development infrastructure for this integrated public health data project. The infrastructure consisted of a mixed Windows 2003 and Windows 2000 server environment with one Microsoft SQL Server 2000 database and a two-node Citrix Metaframe XP farm. Doug worked closely with third-party vendors to implement proprietary hardware and software solutions. Doug worked on-site in Delaware with the customer and third-party vendors during the implementation phase of the production environment.

Delaware Health Alert Network (HAN) Audit, June 2004 to October 2004

In the course of this project, Doug worked closely with Certified Information Systems Security (CISSP) professionals. He was responsible for assisting in the determination of affected systems and gathering information about those systems.

State of Montana Employment Relations Division, December 2000 to February 2001

Doug provided network and troubleshooting support for three Netware 5.1 servers, four Windows NT servers and approximately 120 Windows NT workstations. He built and deployed applications and desktop policies using NetWare Zenworks for Desktops.

Multi State Tax Commission, August 1999 to February 2000

Doug worked on a two-person team developing a distributed Microsoft Access database for the Multistate Tax Commission (MTC) – National Nexus Program. Doug's responsibilities included the conversion of confidential



legacy data from a non-normalized DOS based FoxPro database into a normalized Microsoft Access 97 database. He also developed routines to transfer data entered by auditors from the 36 member states to a central repository located at the MTC headquarters in Washington D.C.

Montana International Insurance, May 1999 to July 1999

Doug was responsible for the implementation of a five site WAN for Montana International Insurance. His duties included working with Touch America to schedule the installation of WAN links, setting up five Windows NT 4.0 servers, and the migration of numerous applications from local workstations to the Windows NT 4.0 servers.

State of Montana Legislative Branch, March 1998 to April 1999

Doug provided network and troubleshooting support for three Netware 5.1 servers and approximately 120 Windows 95 workstations. He was also responsible for all aspects of planning and converting the Montana Legislative Branch to the Windows 95 desktop operating system, Microsoft Office 97 and the planning and implementation of Novell Z.E.N.works desktop management solution. His responsibilities included authoring a deliverable document, which detailed the plan for the client. Included in the document were an analysis of each software package used by the client, a detailed explanation of the installation procedure for all application software packages and Windows 95, a hardware analysis and a timeline documenting all phases of the project.

State of Montana Department of Public Health and Human Services (DPHHS), July 1996 – May 1997.

Doug was responsible for network, PC, and software support for approximately 300 users on a Token Ring Novell 3.12 Network. He was also responsible for the installation and upgrades of NetWare servers and for establishing NetWare server and Windows 95 installation standards. Doug traveled to remote DPHHS sites to install new servers and train employees.

HARDWARE AND SOFTWARE:

Platforms:

- Windows 95/98/NT/2000/XP,
- Linux,
- Novell,
- Citrix Metaframe,
- Oracle Application Server

Hardware:

- Switches,
- Routers,
- Hubs,
- Bridges,
- Wireless,
- Intel X86.

PROFESSIONAL CERTIFICATIONS:

- Novell Certified Network Administrator
- Citrix Certified Sales Person
- Citrix Certified Enterprise Administrator
- Six Sigma Green Belt



DARRIN G. MCLEAN
Network Technician

Mr. Darrin McLean is a Northrop Grumman Master LAN Technician with over 10 years of information technology experience. He is a permanent, full time employee with over 8 years of experience with Northrop Grumman.

Darrin is assigned to the MCOLES Network project as the Network Technician on a part-time basis.

EDUCATION:

B.S., Physics, Weber State University, Ogden Utah, 1994

EXPERIENCE:

Northrop Grumman

June 1998 to Present

Mr. McLean has 10 years of experience in the information technology arena, engineering and supporting Local Area networks for both internal and external customers. His experience includes Project Management, Engineering, Technical Consulting, and user support.

State of Montana Fish Wildlife and Parks, July 2005 to September 2006

Darrin provided network support upgrading their current one server Netware environment to a 3-node cluster environment, running Zenworks 6.5, and Novell IP print services.

Action for Eastern Montana, July 2005 to September 2006

Darrin provided network support to Action for Eastern Montana. He diagnosed and repaired their current network infrastructure. Darrin implemented a VPN remote connection for remote sites, implemented WSUS on the network, configured a VERITAS, LTO backup system.

State of Montana, Legislative Division, March 2004 to June 2005

Darrin provided network design, implementation, and support services for a five-node Citrix Farm to use during the Legislative Session. He implemented the use of MaxBook thin client notebooks for session staff to access network resource, saving the Legislative Branch money by running Citrix to published applications to thin client Neoware machines, and MaxBook thin client notebooks during the state session. Darrin also upgraded and configured the Novell ZenWorks 4.0 to ZenWorks 6.5.

State of Montana Legislative Branch, February 2000 to October 2002

Darrin provided network support for three NetWare 5.1 servers, and three NetWare 6 servers running Novell cluster services. He helped support 120 workstations and converted them from Windows 95 to Windows 2000. Darrin implemented NDPS printing and several version upgrades to Novell Zenworks.

Darrin participated in the implementation of a Citrix farm for the Montana Legislature in order to save money by eliminating the need to purchase new machines every two years to handle the demand for software such as Microsoft Office and several proprietary applications. He also participated in the engineering, implementation and maintenance of two SANs for the State of Montana Legislative Services Division. The SAN environments consisted of a three-node Netware Cluster and a five-node Citrix Metaframe farm.

Commercial Customer Support, 1999 to Present

Darrin has provided extensive network design, implementation, support, and consulting services to numerous Northrop Grumman commercial customers in Montana, including law firms, timber companies, and automotive companies. In his support activities Darrin looks for solutions that maximize security, connectivity, and responsiveness while reducing overhead and cost. In addition to day-to-day support he updates workstations, software, and other hardware; resolves server errors; redesigns networks; implements wireless VPN; and implements Citrix solutions.

TCI Media Services, 1994 to 1998



Darrin was the Network Administrator. He was responsible for designing and implementing the user interface with Windows NT 4.0 workstation, and Novell 3.12 and 4.1 servers. Along with the Microsoft Networking, the implementation included with RAS dialer, and LAN remote access for Desktop's and Laptop configurations. Darrin was involved with the upgrading of Windows 3.1x Machines to Windows 95, and upgrading Office 95 to Office 97. He was also responsible for troubleshooting, repairing, and maintaining the on-site computer, network services, and seven remote sites through out Montana. Darrin's responsibilities included the installation of memory, cd-roms, hard drives, zip drives, and modems. His duties also included daily user interface with Novell servers, drive mappings, Login scripts, and Office 97 applications.

HARDWARE AND SOFTWARE:

Workstations:

Involved with the troubleshooting and hardware maintenance of many 486/586 computers, and also bus architectures such as ISA, VLB, PCI, EISA, IDE and SCSI.

Servers and Network:

Administration of Novell 3.x, 4.x, 5x, 6x servers, with Microsoft Windows NT 4.0 workstations, Protocol configurations include IPX/SPX, TCP/IP, using Novell and Windows NT 4.0, Windows 2000, Windows 2000 and 2003 server, Exchange 2003 and Windows 95.

Network Operating Systems:

Novell NetWare Versions 3.12, 4.1 and Intranetware 4.11, and Novell 5.0, NetWare 6, Windows 2000, Windows 2003, Microsoft Windows 3.11, Windows 95, Windows 98

Workstations Operating Systems:

MS-DOS versions 5.0 through 6.22
Microsoft Windows 3.11,
Windows 95,
Windows NT 4.0,
Windows Millennium Me,
Windows 2000,
Windows XP

Network Management Utilities:

Novell NetWare Administrator
Novell ConsoleOne
Novell NDS Manager
Novell Z.E.N. Works
Novell GroupWise Administrator
Compaq SAN
IBM Fast T SAN
EMC SAN

Other Network Software

Novell GroupWise 4.1a, 5.2 and 5.5
Seagate Storage Exec. Seagate Backup Exec. , Arcserve 6.5 for NT and for NetWare
Netbackup
ZipOffice e-mail system
Microsoft Exchange for Windows NT
Novell NDPS
Novell Cluster Services 1.6

PROFESSIONAL CERTIFICATIONS:

Certified Novell Engineer Novell IntraNetware 4.x,
Certified Novell Engineer Novell NetWare 5.x
Certified Novell Engineer Novell Netware 6.x



Article 1, Attachment C
Labor Rates

Hourly Rates

Northrop Grumman is proposing to hold the not-to-exceed hourly rates contained in our proposal for a three-year period without any rate increases during the contract.

Not to Exceed Hourly Rates

No.	Resources	Hourly cost (\$) (not to exceed)
1.	Technical Lead	\$123.50
2.	Business analysts	\$123.50
3.	System analysts	123.50
4.	Programmer analysts	104.00
5.	Database administrators	123.50
6.	Security specialist	123.50
7.	Testers	104.00
8.	Technical writers	104.00
9.	System Architects	150.00
10.	Network Technician	123.50
11.	Software Architects	123.50
12.	Project assistants	150.00
13.	Web developers	123.50
14.	Application trainers	104.00



*Article 1, Attachment D
Price Proposal*

Contract Type

Contractor proposes a firm fixed price (FFP) contract for the monthly maintenance support described in our contract. We also propose not-to-exceed hourly rates for additional effort to be computed on a task order, time and materials (T&M) basis

Base Period of Performance

The base period of performance is for thirty-six (36) months beginning on the date that the last signature required to make the Contract enforceable is obtained.

MCOLLES Network Price

The firm fixed price by annual contract period is shown below:

	<u>Monthly</u>	<u>Yearly</u>
First Year:	\$4,950.00	\$59,400.00
Second Year:	\$5,200.00	\$62,400.00
Third Year:	\$5,300.00	\$63,600.00
Fourth Year (optional)*	\$5,500.00	\$66,000.00
Fifth Year (optional) *	\$5,800.00	\$69,600.00
Routine Maintenance Plan		\$ 2,200.00

* Each annual extension will require a contract amendment to extend the contract period and increase the contract amount, based on an evaluation of the level of services required by the MCOLLES.

This contract will be for three years with two optional one-year extensions. Breakout for the first three years is as follows:

Routine Maintenance (one time charge)	\$ 2,200.00
First year	\$ 59,400.00
Second year	\$ 62,400.00
Third year	<u>\$ 63,600.00</u>
 Total maintenance for three years	 \$187,600.00
 Additional funding for legislative and Procedural changes for the three-year period	 <u>\$712,400.00</u>
 Total three year contract	 \$900,000.00



Table 1: Summary of the Project Cost

No.	Cost Categories	Cost (\$)	Comments
A.	Develop Routine Maintenance Plan	\$2,200.00	
B.	MCOLES Network Application Maintenance 1.104B		
	Conduct routine database maintenance per Routine Maintenance Plan	\$185,400.00	
	Provide day-to-day support for database record cleanup		
	Research and install Oracle patches		
	Trouble shoot application malfunctions		
	Restart web server and/or Oracle services as required		
	Transfer application and/or database to new hardware		
	Consult with MDIT staff as required		
	Update system documentation		
C.	Minor Application Enhancement Development 1.104C	\$342,600.00	Change Control Process
	Existing functionality problem resolution		
	Minor application enhancements		
D.	Major Application Enhancement Development 1.104D	\$369,800.00	Work Statement/Quote Process
	Develop and implement application upgrades		
	Application knowledge transfer (training)		
	Total Project Cost	\$900,000.00	

Table 2: Fixed Firm Price

Cost Categories	Monthly cost (\$)	Year	Comments
MCOLES Network Application			
First Year (after one year warranty)	\$4,950.00	1 st year of 3-yr contract	Please see Section 1.6 for
Second Year	\$5,200.00	2 nd year of 3-yr contract	our pricing assumptions and
Third Year	\$5,300.00	3 rd year of 3-year contract	considerations.
Fourth Year	\$5,500.00	1 year extension*	
Fifth Year	\$5,800.00	1 year extension*	

* Each annual extension will require a contract amendment to extend the contract period and increase the contract amount, based on an evaluation of the level of services required by the MCOLES.



Article 2 – General Terms and Conditions

2.010 Contract Structure and Administration

2.011 Definitions

Capitalized terms used in this Contract (including its Exhibits) shall have the meanings given below, unless the context requires otherwise:

- (a) “Days” means calendar days unless otherwise specified.
- (b) “24x7x365” means 24 hours a day, seven days a week, and 365 days a year (including the 366th day in a leap year).
- (c) “Additional Service” means any Services/Deliverables within the scope of the Contract, but not specifically provided under any Statement of Work, that once added will result in the need to provide the Contractor with additional consideration. “Additional Service” does not include New Work.
- (d) “Amendment Labor Rates” means the schedule of fully-loaded hourly labor rates attached as

Article 1, Attachment C.

- (e) “Audit Period” has the meaning given in **Section 2.111**.
- (f) “Business Day,” whether capitalized or not, shall mean any day other than a Saturday, Sunday or State-recognized legal holiday (as identified in the Collective Bargaining Agreement for State employees) from 8:00am EST through 5:00pm EST unless otherwise stated.
- (g) “Incident” means any interruption in Services.
- (h) “Business Critical” means any function identified in any Statement of Work as Business Critical.
- (i) “Deliverable” means physical goods and/or commodities as required or identified by a Statement of Work
- (j) “Key Personnel” means any Personnel designated in **Article 1, Attachment B, as Key Personnel**.
- (k) “New Work” means any Services/Deliverables outside the scope of the Contract and not specifically provided under any Statement of Work, that once added will result in the need to provide the Contractor with additional consideration.
- (l) “Services” means any function performed for the benefit of the State.
- (m) “State Location” means any physical location where the State performs work. State Location may include state-owned, leased, or rented space.
- (n) “Subcontractor” means a company Contractor delegates performance of a portion of the Services to, but does not include independent contractors engaged by Contractor solely in a staff augmentation role.
- (o) “Work in Process” means a Deliverable that has been partially prepared, but has not been presented to the State for Approval.

2.012 Attachments and Exhibits

All Attachments and/or Exhibits attached to any, and all Statement(s) of Work, attached to, or referencing this Contract are incorporated in their entirety into, and form part of, this Contract.

2.013 Statements of Work

- (a) The parties agree that the Services/Deliverables to be rendered by Contractor pursuant to this Contract (and any future amendments of it) will be defined and described in detail in Statements of Work or Purchase Orders (PO) executed under this Contract. Contractor shall not be obliged or authorized to commence any work to implement a Statement of Work until authorized via a PO issued against this Contract, or an amendment to this Contract (see 2.106). Contractor shall perform in accordance with this Contract, including the Statements of Work/Purchase Orders executed under it.
- (b) Unless otherwise agreed by the parties, each Statement of Work (as defined in Article 1) will include, or incorporate by reference to the appropriate Contract Article 1 Attachment containing, the following information:
 - a description of the Services to be performed by Contractor under the Statement of Work;
 - a project schedule (including the commencement and completion dates for all tasks, subtasks (for all projects of sufficient duration and complexity to warrant sub task breakdown), and Deliverables;



- a list of the Deliverables to be provided, if any, including any particular specifications and acceptance criteria for such Deliverables, and the dates on which the Deliverables are scheduled to be completed and delivered to the State;
- all Deliverable price schedules and other charges associated with the Statement of Work, the overall fixed price for such Statement of Work and any other appropriate pricing and payment terms;
- a specification of Contractor's and the State's respective performance responsibilities with respect to the performance or completion of all tasks, subtasks and Deliverables;
- a listing of any Key Personnel of Contractor and/or its Subcontractors for that Statement of Work and any future Statements of Work;
- any other information or provisions the parties agree to include.

(c) Reserved.

(d) The initial Statements of Work, as of the Effective Date, are attached to this Contract.

2.014 Issuing Office

This Contract is issued by the Department of Management and Budget, Purchasing Operations (DMB PO) and Department of Information Technology (DIT) for the Michigan State Police (MSP)(collectively, including all other relevant State of Michigan departments and agencies, the "State"). DMB PO is the sole point of contact in the State with regard to all procurement and contractual matters relating to the Contract. DMB PO **is the only State office authorized to change, modify, amend, alter or clarify the prices, specifications, terms and conditions of this Contract.** The Contractor Administrator within the Office of Purchasing Operations for this Contract is:

[Jacque Kuch](#)

Purchasing Operations

Department of Management and Budget

Mason Bldg, 2nd Floor

PO Box 30026

Lansing, MI 48909

Email kuchj@michigan.gov

Phone (517) 241-0239

2.015 Contract Compliance Inspector

Upon receipt at DMB PO of the properly executed Contract, it is anticipated that the Director of DMB Purchasing Operations, in consultation with (DIT and MSP), will direct that the person named below, or any other person so designated, be authorized to monitor and coordinate the activities for the Contract on a day-to-day basis during its term. However, monitoring of this Contract implies **no authority to change, modify, clarify, amend, or otherwise alter the prices, terms, conditions and specifications of such Contract as that authority is retained by the Office of DMB Purchasing Operations.** The Contract Administrator for this Contract is:

Barbara Suska

Department of Information Technology

DIT Contracts

Constitution Hall, Atrium - South Tower

525 W. Allegan

Lansing, MI 48913

Email suskab2@michigan.gov

Phone (517)335-4067

2.016 Project Manager

The following individual will oversee the project:

Name: Hermina Kramp

Michigan State Police

7426 N. Canal Road

Lansing, MI 48913

Email kramph@michigan.gov

Phone: 517-322-5621



2.020 Contract Objectives/Scope/Background

2.021 Background

See Article 1.

2.022 Purpose

See Article 1.

2.023 Objectives and Scope

See Article 1.

2.024 Interpretation

Sections 2.021 through 2.023 are intended to provide background and context for this Contract and are not intended to expand the scope of the obligations under this Contract or to alter the plain meaning of the terms and conditions of this Contract. However, to the extent the terms and conditions of this Contract are unclear or otherwise ambiguous, such terms and conditions are to be interpreted and construed in light of the provisions of this Section.

2.025 Form, Function and Utility

If the Contract is for use of more than one State agency and if the Deliverable/Service does not meet the form, function, and utility required by that State agency, that agency may, subject to State purchasing policies, procure the Deliverable/Service from another source.

2.030 Legal Effect and Term

2.031 Legal Effect

Except as otherwise agreed in writing by the parties, the State assumes no liability for costs incurred by Contractor or payment under this Contract, until Contractor is notified in writing that this Contract (or Change Order) has been approved by the State Administrative Board (if required), approved and signed by all the parties, and a Purchase Order against the Contract has been issued.

2.032 Contract Term

This Contract is for a period of three (3) years commencing on the date that the last signature required to make the Contract enforceable is obtained. All outstanding Purchase Orders shall also expire upon the termination (cancellation for any of the reasons listed in 2.210) of the Contract, unless otherwise extended pursuant to the Contract. Absent an early termination for any reason, Purchase Orders issued but not expired, by the end of the Contract's stated term, will remain in effect for the balance of the fiscal year for which they were issued.

2.033 Renewal(s)

This Contract may be renewed in writing by mutual agreement of the parties not less than thirty (30) days before its expiration. The Contract may be renewed for up to two (2) additional one year periods. Successful completion of negotiations surrounding the terms of the extension, will be a pre-requisite for the exercise of any option year.

2.040 Contractor Personnel

2.041 Contractor Personnel

(a) **Personnel Qualifications.** All persons assigned by Contractor to the performance of Services under this Contract shall be employees of Contractor or its majority-owned (directly or indirectly, at any tier) subsidiaries (or a State-approved Subcontractor) and shall be fully qualified to perform the work assigned to them. Contractor shall include a similar provision in any subcontract entered into with a Subcontractor. For the purposes of this Contract, independent contractors engaged by Contractor solely in a staff augmentation role shall be treated by the State as if they were employees of Contractor for this Contract only; however, the State understands that the relationship between Contractor and Subcontractor is an independent contractor relationship.

(b) **Key Personnel**

(i) In discharging its obligations under this Contract, Contractor shall provide the named Key Personnel on the terms indicated. **Article 1, Attachment B** provides an organization chart showing the roles of certain Key Personnel, if any.



(ii) Key Personnel shall be dedicated as defined in **Article 1, Attachment B** to the Project for its duration in the applicable Statement of Work with respect to other individuals designated as Key Personnel for that Statement of Work.

(iii) The State will have the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor will notify the State of the proposed assignment, will introduce the individual to the appropriate State representatives, and will provide the State with a resume and any other information about the individual reasonably requested by the State. The State reserves the right to interview the individual before granting written approval. In the event the State finds a proposed individual unacceptable, the State will provide a written explanation including reasonable detail outlining the reasons for the rejection. Additionally, the State's request shall be based on legitimate, good-faith reasons. Proposed alternative for the individual denied, shall be fully qualified for the position.

(iv) Contractor shall not remove any Key Personnel from their assigned roles or the Contract without the prior written consent of the State. If the Contractor does remove Key Personnel without the prior written consent of the State, it shall be considered an unauthorized removal ("Unauthorized Removal"). It shall not be considered an Unauthorized Removal if Key Personnel must be replaced for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation or for cause termination of the Key Personnel's employment. It shall not be considered an Unauthorized Removal if Key Personnel must be replaced because of promotions or other job movements allowed by Contractor personnel policies or Collective Bargaining Agreement(s) as long as the State receives prior written notice before shadowing occurs and Contractor provides fifteen (15) days of shadowing unless parties agree to a different time period. The Contractor with the State shall review any Key Personnel replacements, and appropriate transition planning will be established. Any Unauthorized Removal may be considered by the State to be a material breach of the Contract, in respect of which the State may elect to exercise its rights under **Section 2.210**.

(v) It is acknowledged that an Unauthorized Removal will interfere with the timely and proper completion of the Contract, to the loss and damage of the State, and that it would be impracticable and extremely difficult to fix the actual damage sustained by the State as a result of any Unauthorized Removal. Therefore, Contractor and the State agree that in the case of any Unauthorized Removal in respect of which the State does not elect to exercise its rights under **Section 2.210**, the State may assess liquidated damages against Contractor as specified below.

For the Unauthorized Removal of any Key Personnel designated in the applicable Statement of Work, the liquidated damages amount shall be \$200.00.business day per individual provided Contractor identifies a replacement approved by the State pursuant to **Section 2.041** and assigns the replacement to the Project to shadow the Key Personnel s/he is replacing for a period of at least fifteen (15) days prior to such Key Personnel's removal.

If Contractor fails to assign a replacement to shadow the removed Key Personnel for at least fifteen (15) days, in addition to the \$200.00 liquidated damages for an Unauthorized Removal, Contractor shall pay the amount of \$200.00 per day for each day of the fifteen (15) day shadow period that the replacement Key Personnel does not shadow the removed Key Personnel. The total liquidated damages that may be assessed per Unauthorized Removal and failure to provide fifteen (15) business days of shadowing shall not exceed \$15,000.

(c) Re-assignment of non-Key Personnel. Prior to re-deploying to other projects, at the completion of their assigned tasks on the Project, teams of its non-Key Personnel who are performing Services on-site at State facilities or who are otherwise dedicated primarily to the Project, Contractor will give the State at least ten (10) Business Days notice of the proposed re-deployment to give the State an opportunity to object to the re-deployment if the State reasonably believes such team's Contract responsibilities are not likely to be completed and approved by the State prior to the proposed date of re-deployment.

(d) Re-assignment of Personnel at the State's Request. The State reserves the right to require the removal from the Project of Contractor personnel found, in the judgment of the State, to be unacceptable. The



State's request shall be written with reasonable detail outlining the reasons for the removal request. Additionally, the State's request shall be based on legitimate, good-faith reasons. Replacement personnel for the removed person shall be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed personnel, the State agrees to an equitable adjustment in schedule or other terms that may be affected by the State's required removal. If any such incident with removed personnel results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLAs for the affected Service will not be counted in **Section 2.076** for a time as agreed to by the parties.)

(e) **Staffing Levels.**

(i) All staff requirements not specified in the applicable Statement of Work or State-approved project plan as State personnel will be supplied by Contractor. This includes secretarial, clerical and Contract administration support staff necessary for Contractor to perform its obligations hereunder.

(ii) Contractor shall provide sufficient personnel resources for the completion of Contract tasks indicated in Contractor's project plan approved by the State. If the level of personnel resources is insufficient to complete any Contractor Contract tasks in accordance with the Contract time schedule as demonstrated by Contractor's failure to meet mutually agreed to time schedules Contractor shall promptly add additional qualified personnel resources to the performance of the affected tasks, at no additional charge to the State when related to maintenance issues, in an amount sufficient to complete performance of Contractor's tasks in accordance with the Contract time schedule.

(f) **Personnel Turnover.** The Parties agree that it is in their best interests to keep the turnover rate of employees of Contractor and its Subcontractors who are performing the Services to a reasonable minimum. Accordingly, if the State determines that the turnover rate of such employees is excessive and so notifies Contractor, Contractor will meet with the State to discuss the reasons for the turnover rate and otherwise use commercially reasonable efforts to minimize such turnover rate. If requested to do so by the State, Contractor will submit to the State its proposals for reducing the turnover rate to an acceptable level. In any event, notwithstanding the turnover of personnel, Contractor remains obligated to perform the Services without degradation and in accordance with the State-approved Contract schedule.

(g) **Location.** All staff assigned by Contractor to work on the Contract will perform their duties either primarily at Contractor's offices and facilities or at State facilities. Without limiting the generality of the foregoing, Key Personnel will, at a minimum, spend at least the amount of time on-site at State facilities as indicated in the applicable Statement of Work. Subject to availability, selected Contractor personnel may be assigned office space to be shared with State personnel.

2.042 Contractor Identification

Contractor employees shall be clearly identifiable while on State property by wearing a State-issued badge, as required. Contractor employees are required to clearly identify themselves and the company they work for whenever making contact with State personnel by telephone or other means.

2.043 Cooperation with Third Parties

Contractor agrees to cause its personnel and the personnel of any Subcontractors to cooperate with the State and its agents and other contractors including the State's Quality Assurance personnel, and, as reasonably requested by the State, to provide to the State's agents and other contractors with reasonable access to Contractor's Project personnel, systems and facilities to the extent they relate to activities specifically associated with this Contract and will not interfere or jeopardize the safety or operation of the systems or facilities and provided Contractor receives reasonable prior written notice of such request. The State acknowledges that Contractor's time schedule for the Contract is very specific and agrees not to unnecessarily or unreasonably interfere with, delay or otherwise impeded Contractor's performance under this Contract with such requests for access.

2.044 Subcontracting by Contractor

(a) Contractor shall have full responsibility for the successful performance and completion of all of the Services and Deliverables. The State will consider Contractor to be the sole point of contact with regard to all contractual matters under this Contract, including payment of any and all charges for Services and Deliverables.



(b) Contractor shall not delegate any duties under this Contract to a Subcontractor unless the Department of Management and Budget, Office of Purchasing Operations has given written consent to such delegation. The State shall have the right of prior written approval of all Subcontractors and to require Contractor to replace any Subcontractors found, in the reasonable judgment of the State, to be unacceptable. The State's request shall be written with reasonable detail outlining the reasons for the removal request. Additionally, the State's request shall be based on legitimate, good-faith reasons. Replacement Subcontractor(s) for the removed Subcontractor shall be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed Subcontractor, the State will agree to an equitable adjustment in schedule or other terms that may be affected by the State's required removal. If any such incident with a removed Subcontractor results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLAs for the affected Work will not be counted in **Section 2.076** for a time agreed upon by the parties.

(c) In any subcontracts entered into by Contractor for the performance of the Services, Contractor shall require the Subcontractor, to the extent of the Services to be performed by the Subcontractor, to be bound to Contractor by the terms of this Contract and to assume toward Contractor all of the obligations and responsibilities that Contractor, by this Contract, assumes toward the State. The State reserves the right to receive copies of and review all subcontracts, although Contractor may delete or mask any proprietary information, including pricing, contained in such contracts before providing them to the State. The management of any Subcontractor will be the responsibility of Contractor, and Contractor shall remain responsible for the performance of its Subcontractors to the same extent as if Contractor had not subcontracted such performance. Contractor shall make all payments to Subcontractors or suppliers of Contractor. Except as otherwise agreed in writing by the State and Contractor, the State will not be obligated to direct payments for the Services other than to Contractor. The State's written approval of any Subcontractor engaged by Contractor to perform any obligation under this Contract shall not relieve Contractor of any obligations or performance required under this Contract. Attached as **Exhibit E** (does not exist) is a list of the Subcontractors, if any, approved by the State as of the execution of this Contract, together with a copy of the applicable sub-contract.

(d) Except where specifically approved in writing by the State on a case-by-case basis, Contractor shall flow down the obligations in **Sections 2.040, 2.110, 2.150, 2.160, 2.171(c), 2.172(b), 2.180, 2.260, 2.276, 2.297** in all of its agreements with any Subcontractors.

(e) The Contractor shall select subcontractors (including suppliers) on a competitive basis consistent with the objectives and requirements of the Contract.

2.045 Contractor Responsibility for Personnel

Contractor shall be responsible for all acts and omissions of its employees, as well as the acts and omissions of any other personnel furnished by Contractor to perform the Services.

2.050 State Standards

2.051 Existing Technology Standards

The Contractor will adhere to all existing standards as described within the comprehensive listing of the State's existing technology standards at http://www.michigan.gov/dit/0,1607,7-139-30639_30655---,00.html.

2.052 PM Methodology Standards

The State has adopted a standard documented Project Management Methodology (PMM) for use on all Information Technology (IT) based projects. See the State's PMM website at <http://www.michigan.gov/projectmanagement>

The Contractor shall use the State's PPM to manage this Contract. If the Contractor requires training on the PMM, those costs shall be the responsibility of the Contractor, unless otherwise stated.

2.053 Adherence to Portal Technology Tools

The State has adopted the following tools for its Portal Technology development efforts:

- Vignette Content Management and personalization Tool
- Inktomi Search Engine



- E-Pay Payment Processing Module
- Websphere Commerce Suite for e-Store applications

Unless otherwise stated, Contractor must use the Portal Technology Tools to implement web content management and deployment efforts. Tools used for web-based application development must work in conjunction with Vignette and Inktomi. The interaction with Vignette and Inktomi must be coordinated with DIT, Enterprise Application Services Office, e-Michigan Web Development team.

Contractors that are compelled to use alternate tools must have received an exception from DIT, Enterprise Application Services Office, e-Michigan Web Development team, before this Contract is effective.

2.054 Acceptable Use Policy

To the extent that Contractor has access to the State computer system, Contractor must comply with the State's Acceptable Use Policy, see <http://www.michigan.gov/dit/service/0,1607,7-179-25781-73760--,00.html>.

All Contractor employees must be required, in writing, to agree to the State's Acceptable Use Policy before accessing the State system. The State reserves the right to terminate Contractor's access to the State system if a violation occurs.

2.060 Deliverables

2.061 Ordering

(a) Any Services/Deliverables to be furnished under this Contract shall be ordered by issuance of written Purchase Orders/Blanket Purchase Order by the State after approval by the Contract Administrator or his/her designee. All orders are subject to the terms and conditions of this Contract. In the event of conflict between an order and this Contract, the Contract shall take precedence as stated in **Section 2.293**. In no event shall any additional terms and conditions contained on a Purchase Order/Blanket Purchase Order be applicable, unless specifically contained in that Purchase Order/Blanket Purchase Order's accompanying Statement of Work.

(b) DIT will continue to oversee the use of this Contract by End Users. DIT may, in writing, delegate to agencies the authority to submit requests for certain services directly to the Contractor. DIT may also designate, in writing, some services as non-delegated and require DIT review and approval before agency acquisition. DIT will use Contractor provided management reports and periodic random agency audits to monitor and administer contract usage for delegated services.

2.062 Software

RESERVED

2.063 Hardware

RESERVED

2.064 Equipment to be New and Prohibited Products

(a) Equipment to be New

If applicable, all equipment provided under this Contract by Contractor shall be new where Contractor has knowledge regarding whether the equipment is new or assembled from new or serviceable used parts that are like new in performance or has the option of selecting one or the other. Equipment that is assembled from new or serviceable used parts that are like new in performance is acceptable where Contractor does not have knowledge or the ability to select one or other, unless specifically agreed otherwise in writing by the State.

(b) Prohibited Products

The State will not accept salvage, distressed, outdated or discontinued merchandise. Shipping of such merchandise to any State agency, as a result of an order placed against the Contract, shall be considered default by the Contractor of the terms and conditions of the Contract and may result in cancellation of the Contract by the State. The brand and product number offered for all items shall remain consistent for the term of the Contract, unless Purchasing Operations has approved a change order pursuant to **Section 2.106**.

2.070 Performance

2.071 Performance, In General

The State engages Contractor to execute the Contract and perform the Services/provide the Deliverables, and Contractor undertakes to execute and complete the Contract in its entirety in accordance with the terms and conditions of this Contract and with the participation of State representatives as specified in this Contract.

2.072 Time of Performance



(a) Contractor shall use commercially reasonable efforts to provide the resources necessary to complete all Services and Deliverables in accordance with the time schedules contained in the Statements of Work and other Exhibits governing the work, and with professional quality.

(b) Without limiting the generality of **Section 2.072(a)**, Contractor shall notify the State in a timely manner upon becoming aware of any circumstances that may reasonably be expected to jeopardize the timely and successful completion of any Deliverables/Services on the scheduled due dates in the latest State-approved delivery schedule and, in such event, shall inform the State of the projected actual delivery date.

(c) If Contractor believes that a delay in performance by the State has caused or will cause Contractor to be unable to perform its obligations in accordance with specified Contract time periods, Contractor shall notify the State in a timely manner and shall use commercially reasonable efforts to perform its obligations in accordance with such Contract time periods notwithstanding the State's failure. Contractor will not be in default for a delay in performance to the extent such delay is caused by the State.

2.073 Liquidated Damages

RESERVED

2.074 Bankruptcy

If Contractor shall file for protection under the bankruptcy laws, or if an involuntary petition shall be filed against Contractor and not removed within thirty (30) days, or if the Contractor becomes insolvent, be adjudicated bankrupt, or if it should make a general assignment for the benefit of creditors, or if a receiver shall be appointed due to its insolvency, and Contractor and/or its affiliates are unable to provide reasonable assurances that Contractor and/or its affiliates can deliver the services provided herein, the State may, without prejudice to any other right or remedy, terminate this Contract, in whole or in part, and, at its option, may take possession of the "Work in Process" and finish such Works in Process by whatever appropriate method the State may deem expedient. Contractor will fix appropriate notices or labels on the Work in Process to indicate ownership by the State. To the extent reasonably possible, materials and Work in Process shall be stored separately from other stock and marked conspicuously with labels indicating ownership by the State.

To secure the State's progress payments before the delivery of any services or materials required for the execution of Contractor's obligations hereunder, and any work which Contractor may subcontract in the support of the performance of its obligations hereunder, title shall vest in the State to the extent the State has made progress payments hereunder.

2.075 Time is of the Essence

The Contractor agrees that time is of the essence in the performance of the Contractor's obligations under this Contract.

2.076 Service Level Agreements (SLAs)

(a) SLAs will be completed with the following operational considerations when included in the applicable Statement of Work or Purchase Order:

(i) SLAs will not be calculated for individual Incidents where any event of Excusable Failure has occurred as defined in **Section 2.202**,

(ii) SLAs will not be calculated for individual Incidents where loss of service is planned and where the State has received prior notification and/or coordination.

(iii) SLAs will not apply if the applicable Incident could have been prevented through planning proposed by Contractor and not implemented at the request of the State. In order to invoke this consideration, complete documentation relevant to the denied planning proposal must be presented to substantiate the proposal.

(iv) Time period measurements will be based on the time Incidents are received by the Contractor and the time that the State receives notification of resolution based on 24x7x365 time period, except that the time period measurement will be suspended based on the following ("Stop-Clock Conditions"):

1. Time period(s) will not apply where Contractor does not have access to a physical State Location and where access to the State Location is necessary for problem identification and resolution.



2. Time period(s) will not apply where Contractor needs to obtain timely and accurate information or appropriate feedback and is unable to obtain timely and accurate information or appropriate feedback from the State.
- (b) Chronic Failure for any Service(s) will be defined as three (3) unscheduled outage(s) or interruption(s) on any individual Service for the same reason or cause or if the same reason or cause was reasonably discoverable in the first instance over a rolling thirty (30) day period, and this failure was the fault of the contractor. Chronic Failure will result in the State's option to terminate the effected individual Service(s) and procure them from a different vendor for the chronic location(s) with Contractor to pay the difference in charges for up to three (3) additional months. The termination of the Service will not affect any tiered pricing levels.
 - (c) Root Cause Analysis will be performed on any Business Critical outage(s) or outage(s) on Services when requested by the Contract Administrator. Contractor will provide its analysis within two (2) weeks of outage(s) and provide a recommendation for resolution.
 - (d) All decimals shall be rounded to two decimal places with 5 and greater rounding up and 4 and less rounding down unless otherwise specified.

2.080 Delivery and Acceptance of Deliverables

2.081 Delivery Responsibilities

Unless otherwise specified by the State within an individual order, the following shall be applicable to all orders issued under this Contract.

- (a) Shipment responsibilities - Services performed/Deliverables provided under this Contract shall be delivered "F.O.B. Destination, within Government Premises." The Contractor shall have complete responsibility for providing all Services/Deliverables to all site(s) unless otherwise stated. Actual delivery dates will be specified on the individual purchase order.
- (b) Delivery locations - Services will be performed/Deliverables will be provided at every State of Michigan location within Michigan unless otherwise stated in the SOW. Specific locations will be provided by the State or upon issuance of individual purchase orders.
- (c) Damage Disputes - At the time of delivery to State Locations, the State shall examine all packages. The quantity of packages delivered shall be recorded and any obvious visible or suspected damage shall be noted at time of delivery using the shipper's delivery document(s) and appropriate procedures to record such.

Where there is no obvious or suspected damage, all deliveries to a State Location must be opened by the State and the contents inspected for possible internal damage not visible externally within fourteen (14) days of receipt. Any damage must be reported to the Contractor within five (5) days of inspection. If this inspection does not occur and damages not reported within thirty (30) days of receipt, the cure for such damaged deliveries shall transfer to the delivery signing party.

2.082 Delivery of Deliverables

- (a) Where applicable, the Statements of Work/POs contain lists of the Deliverables to be prepared and delivered by Contractor including, for each Deliverable, the scheduled delivery date and a designation of whether the Deliverable is a document ("Written Deliverable"), a good ("Physical Deliverable") or a Service. All Deliverables shall be completed and delivered for State review and written approval and, where applicable, installed in accordance with the State-approved delivery schedule and any other applicable terms and conditions of the Contract.

2.083 Testing

- (a) Prior to delivering any of the above-mentioned Statement of Work Physical Deliverables or Services to the State, Contractor will first perform all required quality assurance activities to verify that the Physical Deliverable or Service is complete and in conformance with its specifications listed in the applicable Statement of Work or Purchase Order. Before delivering a Physical Deliverable or Service to the State, Contractor shall certify to the State that (1) it has performed such quality assurance activities, (2) it has performed any applicable testing, (3) it has corrected all material deficiencies discovered during such quality assurance activities and testing, (4) the Deliverable or Service is in a suitable state of readiness for the State's review and approval, and (5) the Deliverable/Service has all Critical Security patches/updates applied.



(b) If a Deliverable includes installation at a State Location, then Contractor shall (1) perform any applicable testing, (2) correct all material deficiencies discovered during such quality assurance activities and testing, and (3) inform the State that the Deliverable is in a suitable state of readiness for the State's review and approval. To the extent that testing occurs at State Locations, the State shall be entitled to observe or otherwise participate in testing.

2.084 Approval of Deliverables, In General

(a) All Deliverables (Physical Deliverables and Written Deliverables) and Services require formal written approval by the State, in accordance with the following procedures. Formal approval by the State requires that the Deliverable be confirmed in writing by the State to meet its specifications, which will include the successful completion of Testing as applicable in **Section 2.083**, to be led by the State with the support and assistance of Contractor. The parties acknowledge that the approval process set forth herein will be facilitated by ongoing consultation between the parties, visibility of interim and intermediate Deliverables and collaboration on key decisions.

(b) The State's obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables/Services being reviewed.

(c) Prior to commencement of its review or testing of a Deliverable/Service, the State may inspect the Deliverable/Service to confirm that all components of the Deliverable/Service have been delivered without material deficiencies. If the State determines that the Deliverable/Service has material deficiencies, the State may refuse delivery of the Deliverable/Service without performing any further inspection or testing of the Deliverable/Service. Otherwise, the review period will be deemed to have started on the day the State receives the Deliverable or the Service begins, and the State and Contractor agree that the Deliverable/Service is ready for use and, where applicable, certification by Contractor in accordance with **Section 2.083(a)**.

(d) The State will approve in writing a Deliverable/Service upon confirming that it conforms to and, performs in accordance with, its specifications without material deficiency. The State may, but shall not be required to, conditionally approve in writing a Deliverable/Service that contains material deficiencies if the State elects to permit Contractor to rectify them post-approval. In any case, Contractor will be responsible for working diligently to correct within a reasonable time at Contractor's expense all deficiencies in the Deliverable/Service that remain outstanding at the time of State approval.

(e) If, after three (3) opportunities (the original and two repeat efforts), Contractor is unable to correct all deficiencies preventing Final Acceptance of a Deliverable/Service, the State may: (i) demand that Contractor cure the failure and give Contractor additional time to cure the failure at the sole expense of Contractor; or (ii) keep the Contract in force and do, either itself or through other parties, whatever Contractor has failed to do, in which event Contractor shall bear any excess expenditure incurred by the State in so doing beyond the Contract price for such Deliverable/Service and will pay the State an additional sum equal to ten percent (10%) of such excess expenditure to cover the State's general expenses provided the State can furnish proof of such general expenses; or (iii) terminate the particular Statement of Work for default, either in whole or in part by notice to Contractor provided Contractor is unable to cure such breach. Notwithstanding the foregoing, the State shall not use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.

(f) The State, at any time and in its reasonable discretion, may halt the testing or approval process if such process reveals deficiencies in or problems with a Deliverable/Service in a sufficient quantity or of a sufficient severity as to make the continuation of such process unproductive or unworkable. In such case, the State may stop using the Service or return the applicable Deliverable to Contractor for correction and re-delivery prior to resuming the testing or approval process.

2.085 Process For Approval of Written Deliverables

The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work following delivery of the final version of the Deliverable (failing which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of



the Written Deliverable prior to its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State's election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

2.086 Process for Approval of Services

The State Review Period for approval of Services is governed by the applicable Statement of Work (failing which the State Review Period, by default, shall be thirty (30) Business Days for Services). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Service is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Services (or at the State's election, subsequent to approval of the Service). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Service in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon implementation of a corrected Service from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Service for conformity and that the identified deficiencies have been corrected.

2.087 Process for Approval of Physical Deliverables

The State Review Period for approval of Physical Deliverables is governed by the applicable Statement of Work (failing which the State Review Period, by default, shall be thirty (30) continuous Business Days for a Physical Deliverable). The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected prior to approval of the Deliverable (or at the State's election, subsequent to approval of the Deliverable). If the State delivers to Contractor a notice of deficiencies, Contractor will correct the described deficiencies and within thirty (30) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

2.088 Final Acceptance

Unless otherwise stated in the Statement of Work or Purchase Order, "Final Acceptance" of each Deliverable shall occur when each Deliverable/Service has been approved by the State following the State Review Periods identified in **Sections 2.080-2.087**. Payment will be made for Deliverables installed and accepted. Upon acceptance of a Service, the State will pay for all Services provided during the State Review Period that conformed to the acceptance criteria.

2.090 Financial

2.091 Pricing

(a) Fixed Prices for Services/Deliverables

Each Statement of Work/PO issued under this Contract shall specify (or indicate by reference to the appropriate Contract Exhibit) the firm, fixed prices for all Services/Deliverables, and the associated payment milestones and payment amounts. To the extent the parties agree that certain specific Services will be provided on a time and materials basis, such Services shall be provided at the Amendment Labor Rates (**Article 1, Attachment C**). The State may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor must show verification of measurable progress at the time of requesting progress payments.

(b) Adjustments for Reductions in Scope of Services/Deliverables



If the scope of the Services/Deliverables under any Statement of Work issued under this Contract is subsequently reduced by the State, the parties shall negotiate an equitable reduction in Contractor's charges under such Statement of Work commensurate with the reduction in scope, using the rates in **Article 1, Attachment C**, unless specifically identified in an applicable Statement of Work.

(c) Services/Deliverables Covered

For all Services/Deliverables to be provided by Contractor (and its Subcontractors, if any) under this Contract, the State shall not be obligated to pay any amounts in addition to the charges specified in this Contract.

(d) Labor Rates

All time and material charges will be at the rates specified in **Article 1, Attachment C**.

2.092 Invoicing and Payment Procedures and Terms

(a) Invoicing and Payment – In General

(i) Each Statement of Work issued under this Contract shall list (or indicate by reference to the appropriate Contract Exhibit) the prices for all Services/Deliverables, equipment and commodities to be provided, and the associated payment milestones and payment amounts.

(ii) Each Contractor invoice will show details as to charges by Service/Deliverable component and location at a level of detail reasonably necessary to satisfy the State's accounting and charge-back requirements. The charges for Services billed on a time and materials basis shall be determined based on the actual number of hours of Services performed, at the applicable Labor Rates specified in **Article 1, Attachment C**. Invoices for Services performed on a time and materials basis will show, for each individual, the number of hours of Services performed during the billing period, the billable skill/labor category for such person and the applicable hourly billing rate. Prompt payment by the State is contingent on the Contractor's invoices showing the amount owed by the State minus any holdback amount to be retained by the State in accordance with **Section 2.094**.

(iii) Correct invoices will be due and payable by the State, in accordance with the State's standard payment procedure as specified in 1984 Public Act No. 279, MCL 17.51 et seq., within forty-five (45) days after receipt, provided the State determines that the invoice was properly rendered.

(b) Taxes (See Section 2.305 and Article 3, Section 3.022-3.024 for additional)

The State is exempt from Federal Excise Tax, State and Local Sales Taxes, and Use Tax with respect to the sale to and use by it of tangible personal property. Such taxes shall not be included in Contract prices as long as the State maintains such exemptions. Copies of all tax exemption certificates shall be supplied to Contractor, if requested.

(c) Out-of-Pocket Expenses

Contractor acknowledges that the out-of-pocket expenses that Contractor expects to incur in performing the Services/ providing the Deliverables (such as, but not limited to, travel and lodging, document reproduction and shipping, and long distance telephone) are included in Contractor's fixed price for each Statement of Work. Accordingly, Contractor's out-of-pocket expenses are not separately reimbursable by the State unless, on a case-by-case basis for unusual expenses, the State has agreed in advance and in writing to reimburse Contractor for such an expense at the State's current travel reimbursement rates. See http://www.mi.gov/dmb/0,1607,7-150-9141_13132---,00.html for current rates.

(d) Pro-ration

To the extent there are any Services that are to be paid for on a monthly basis, the cost of such Services shall be pro-rated for any partial month.

(e) Antitrust Assignment

The Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

(f) Final Payment

The making of final payment by the State to Contractor does not constitute a waiver by either party of any rights or other claims as to the other party's continuing obligations under the Contract, nor will it constitute



a waiver of any claims by one party against the other arising from unsettled claims or failure by a party to comply with this Contract, including claims for Services and Deliverables not reasonably known until after acceptance to be defective or substandard. Contractor's acceptance of final payment by the State under this Contract shall constitute a waiver of all claims by Contractor against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still unsettled.

2.093 State Funding Obligation

The State's obligation under this Contract is payable only and solely from funds appropriated for the purpose of this Contract. Contractor acknowledges and agrees that all funds for payments after the end of the current fiscal year are subject to the availability of a legislative appropriation for the purpose of this Contract.. Events of non-appropriation are addressed further in **Section 2.210** of this Contract.

2.094 Holdback

RESERVED

2.095 Electronic Payment Availability

Electronic transfer of funds is available to State contractors. Contractor is required to register with the State electronically at <http://www.cpexpress.state.mi.us>. Public Act 533 of 2004, requires all payments be transitioned over to EFT by October, 2005.

2.100 Contract Management

2.101 Contract Management Responsibility

(a) Contractor shall have overall responsibility for managing and successfully performing and completing the Services/Deliverables, subject to the overall direction and supervision of the State and with the participation and support of the State as specified in this Contract. Contractor's duties will include monitoring and reporting the State's performance of its participation and support responsibilities (as well as Contractor's own responsibilities) and providing timely notice to the State in Contractor's reasonable opinion if the State's failure to perform its responsibilities is likely to delay the timely achievement of any Contract tasks.

(b) The Services/Deliverables will be provided by the Contractor either directly or through its affiliates, subsidiaries, subcontractors or resellers. Regardless of the entity providing the Service/Deliverable, the Contractor will act as a single point of contact coordinating these entities to meet the State's need for Services/Deliverables. Nothing in this Contract, however, shall be construed to authorize or require any party to violate any applicable law or regulation in its performance of this Contract.

2.102 Problem and Contract Management Procedures

Problem Management and Contract Management procedures will be governed by the Contract and the applicable Statements of Work.

2.103 Reports and Meetings

(a) Reports.

Within thirty (30) days after the Effective Date, the parties shall determine an appropriate set of periodic reports to be issued by Contractor to the State. Such reports may include:

- (i) separately address Contractor's performance in each area of the Services;
- (ii) for each area of the Services, assess the degree to which Contractor has attained or failed to attain the pertinent objectives in that area, including on-time completion and delivery of Deliverables;
- (iii) explain the reasons for any failure to achieve on-time completion and delivery of Deliverables and include a plan for corrective action where appropriate;
- (iv) describe any circumstances that Contractor anticipates will impair or prevent on-time completion and delivery of Deliverables in upcoming reporting periods;
- (v) include plans for corrective action or risk mitigation where appropriate and describe the status of ongoing problem resolution efforts;
- (vi) provide reports setting forth a comparison of actual hours spent by Contractor (including its augmented personnel and Subcontractors) in performing the Project versus hours budgeted by Contractor.
- (vii) set forth a record of the material personnel changes that pertain to the Services and describe planned changes during the upcoming month that may affect the Services.



(viii) include such documentation and other information may be mutually agreed to verify compliance with, and meeting the objectives of, this Contract.

(ix) set forth an updated schedule that provides information on the status of upcoming Deliverables, expected dates of delivery (or redelivery) of such Deliverables and estimates on timing for completion of the Project.

(b) Meetings.

Within thirty (30) days after the Effective Date, the parties shall determine an appropriate set of meetings to be held between representatives of the State and Contractor.

2.104 System Changes

Contractor is not responsible for and not authorized to make changes to any State systems without written authorization from the State. Any changes Contractor makes to State systems with the State's approval shall be done in accordance with applicable State procedures, including security, access and configuration management procedures.

2.105

Reserved

2.106 Change Requests

The State reserves the right to request from time to time, any changes to the requirements and specifications of the Contract and the work to be performed by the Contractor under the Contract. During the course of ordinary business, it may become necessary for the State to discontinue certain business practices or create Additional Services/Deliverables. At a minimum, to the extent applicable, the State would like the Contractor to provide a detailed outline of all work to be done, including tasks necessary to accomplish the services/deliverables, timeframes, listing of key personnel assigned, estimated hours for each individual per task, and a complete and detailed cost justification.

If the State requests or directs the Contractor to perform any Services/Deliverables that are outside the scope of the Contractor's responsibilities under the Contract ("New Work"), the Contractor must notify the State promptly, and before commencing performance of the requested activities, that it believes the requested activities are New Work. If the Contractor fails to notify the State before commencing performance of the requested activities, any such activities performed before notice is given by the Contractor shall be conclusively considered to be in-scope Services/Deliverables, not New Work.

If the State requests or directs the Contractor to perform any services or provide deliverables that are consistent with and similar to the Services/Deliverables being provided by the Contractor under the Contract, but which the Contractor reasonably and in good faith believes are not included within the Statements of Work, then before performing such services or providing such deliverables, the Contractor shall notify the State in writing that it considers the services or deliverables to be an Additional Service/Deliverable for which the Contractor should receive additional compensation. If the Contractor does not so notify the State, the Contractor shall have no right to claim thereafter that it is entitled to additional compensation for performing that service or providing that deliverable. If the Contractor does so notify the State, then such a service or deliverable shall be governed by the Change Request procedure in this Section.

In the event prices or service levels are not acceptable to the State, the Additional Services or New Work shall be subject to competitive bidding based upon the specifications.

(a) Change Requests

(i) State Requests

If the State should require Contractor to perform New Work, Additional Services or make changes to the Services that would affect the Contract completion schedule or the amount of compensation due Contractor (a "Change"), the State shall submit a written request for Contractor to furnish a proposal for carrying out the requested Change (a "Change Request").

(ii) Contractor Recommendations

Contractor shall be entitled to propose a Change to the State, on its own initiative, should it be of the opinion that this would benefit the Contract.



(iii) Upon receipt of a Change Request or on its own initiative, Contractor shall examine the implications of the requested Change on the technical specifications, Contract schedule and price of the Deliverables and Services and shall submit to the State without undue delay a written proposal for carrying out the Change. Contractor's proposal will include any associated changes in the technical specifications, Contract schedule and price and method of pricing of the Services. If the Change is to be performed on a time and materials basis, the Amendment Labor Rates shall apply to the provision of such Services. If Contractor provides a written proposal and should Contractor be of the opinion that a requested Change is not to be recommended, it shall communicate its opinion to the State but shall nevertheless carry out the Change as specified in the written proposal if the State directs it to do so.

(iv) By giving Contractor written notice within a reasonable time, the State shall be entitled to accept a Contractor proposal for Change, to reject it or to reach another agreement with Contractor. Should the parties agree on carrying out a Change, a written Contract Change Notice shall be prepared and issued under this Contract, describing the Change and its effects on the Services and any affected components of this Contract (a "Contract Change Notice").

(v) No proposed Change shall be performed until the proposed Change has been specified in a duly executed Contract Change Notice issued by the Department of Management and Budget, Office of Purchasing Operations.

(vi) If the State requests or directs Contractor to perform any activities that Contractor believes constitute a Change, Contractor must notify the State that it believes the requested activities are a Change prior to commencing the performance of the requested activities. If Contractor fails to so notify the State prior to commencing performance of the requested activities, such activities shall be considered to be performed gratuitously by Contractor, and Contractor shall not have any right thereafter to assert any claim for additional compensation or time for the performance of such activities. If Contractor commences performance of gratuitous services outside the scope of this Contract and subsequently elects to stop performing such out-of-scope services, Contractor must, at the request of the State, back out or reverse any changes resulting from such performance that would adversely affect the Contract.

2.107 Management Tools

Contractor will use an automated tool for planning, monitoring and tracking the Contract's progress. In addition, Contractor shall use automated project management tools as reasonably necessary to perform the Services, which tools shall include the capability to produce through the end of the Contract: (i) staffing tables with names of personnel assigned to Contract tasks, (ii) project plans showing tasks, subtasks, Deliverables and the resources required and allocated to each (including detailed plans for all Services to be performed within the next sixty (60) days, updated semi-monthly) and (iii) graphs showing critical events, dependencies and decision points during the course of the Contract. Any tool(s) used by Contractor for such purposes must produce information of a type and in a manner and format that will support reporting in compliance with the State's standard to the extent such information is described with reasonable detail in the Statements of Work and to the extent the related work is of sufficient project complexity and duration to warrant such reporting.

2.110 Records and Inspections

2.111a Records and Inspections

(a) Inspection of Work Performed. The State's authorized representatives shall at all reasonable times and with ten (10) days prior written request, have the right to enter Contractor's premises, or any other places, where the Services are being performed, and shall have access, upon reasonable request, to interim drafts of Deliverables or work-in-progress. Upon ten (10) Days prior written notice and at all reasonable times, the State's representatives shall be allowed to inspect, monitor, or otherwise evaluate the work being performed and to the extent that such access will not reasonably interfere or jeopardize the safety or operation of the systems or facilities. Contractor must provide all reasonable facilities and assistance for the State's representatives.

(b) Examination of Records. Contractor agrees that the State, including its duly authorized representatives, until the expiration of seven (7) years following the creation of the material (collectively, the "Audit Period"), shall, upon twenty (20) days prior written notice, have access to and the right to examine and copy any of Contractor's books, records, documents and papers related to direct costs associated directly with this project pertinent to establishing Contractor's compliance with the Contract and with applicable laws and



rules, including the State's procurement rules, regulations and procedures, and actual performance of the Contract for the purpose of conducting an audit, examination, excerpt and/or transcription but the State shall not have access to any information deemed confidential to Contractor to the extent such access would require such confidential information to become publicly available. This provision also applies to the books, records, accounts, documents and papers, in print or electronic form, of any parent, affiliated or subsidiary organization of Contractor, or any Subcontractor of Contractor performing services in connection with the Contract.

(c) **Retention of Records.** Contractor shall maintain at least until the end of the Audit Period all pertinent financial and accounting records (including time sheets and payroll records, and information pertaining to the Contract and to the Services, equipment, and commodities provided under the Contract) pertaining to the Contract in accordance with generally accepted accounting principles and other procedures specified in this Section. Financial and accounting records shall be made available, upon request, to the State at any time during the Audit Period. If an audit, litigation, or other action involving Contractor's records is initiated before the end of the Audit Period, the records must be retained until all issues arising out of the audit, litigation, or other action are resolved or until the end of the Audit Period, whichever is later.

(d) **Audit Resolution.** If necessary, the Contractor and the State shall meet to review each audit report promptly after issuance. The Contractor will respond to each audit report in writing within thirty (30) days from receipt of such report, unless a shorter response time is specified in such report. The Contractor and the State shall develop, agree upon and monitor an action plan to promptly address and resolve any deficiencies, concerns, and/or recommendations in such audit report.

2.112 Errors

(a) If the audit demonstrates any errors in the statements provided to the State, then the amount in error shall be reflected as a credit or debit on the next invoice and in subsequent invoices until the amount is paid or refunded in full. However, a credit or debit may not be carried for more than four (4) quarterly statements. If a balance remains after four (4) quarterly statements, then the remaining amount will be due as a payment or refund within forty-five (45) days of the last quarterly statement that the balance appeared on or termination of the contract, whichever is earlier.

2.120 State Responsibilities

2.121 State Performance Obligations

(a) **Equipment and Other Resources.** To facilitate Contractor's performance of the Services/Deliverables, the State shall provide to Contractor such equipment and resources as identified in the Statements of Work or other Contract Exhibits as items to be provided by the State.

(b) **Facilities.** The State shall designate space as long as it is available and as provided in the Statement of Work, to house Contractor's personnel whom the parties agree will perform the Services/Deliverables at State facilities (collectively, the "State Facilities"). Contractor shall have reasonable access to, and unless agreed otherwise by the parties in writing shall observe and comply with all rules and regulations relating to, each of the State Facilities (including hours of operation) used by Contractor in the course of providing the Services. Contractor agrees that it will not, without the prior written consent of the State, use any State Facilities or access any State information systems provided for Contractor's use, or to which Contractor otherwise gains access in the course of performing the Services, for any purpose other than providing the Services to the State.

(c) **Return.** Contractor shall be responsible for returning to the State any State-furnished equipment, facilities and other resources when no longer required for the Contract in the same condition as when provided by the State, reasonable wear and tear excepted.

(d) Except as otherwise provided in **Section 2.220**, the State's failure to perform its responsibilities as set forth in this Contract shall not be deemed to be grounds for termination by Contractor. However, Contractor will not be liable for any default or delay in the performance of its obligations under this Contract to the extent such default or delay is caused by nonperformance of the State's obligations under this Contract, provided Contractor provides the State with reasonable written notice of such nonperformance and Contractor uses commercially reasonable efforts to perform notwithstanding the State's failure to perform. In addition, if the State's nonperformance of its responsibilities under this Contract materially increases the time required for Contractor's performance or Contractor's cost of performance, Contractor shall be entitled to seek an equitable extension via the Change Request process described in **Section 2.106**.

2.130 Security



2.131 Background Checks

The Contractor shall authorize the investigation of its personnel proposed to have access to State facilities and systems on a case by case basis. The scope of the background check is at the discretion of the State and the results will be used to determine Contractor personnel eligibility for working within State facilities and systems. Such investigations will include Michigan State Police Background checks (ICHAT) and may include the National Crime Information Center (NCIC) Finger Prints. Proposed Contractor personnel may be required to complete and submit an RI-8 Fingerprint Card for the NCIC Finger Print Check. Any request for background checks will be initiated by the State and will be reasonably related to the type of work requested.

All Contractor personnel will also be expected to comply with the State's security and acceptable use policies for State IT equipment and resources. See <http://www.michigan.gov/ditservice/0,1607,7-179-25781-73760--00.html>. Furthermore, Contractor personnel will be expected to agree to the State's security and acceptable use policies before the Contractor personnel will be accepted as a resource to perform work for the State. It is expected the Contractor will present these documents to the prospective employee before the Contractor presents the individual to the State as a proposed resource. Contractor staff will be expected to comply with all Physical Security procedures in place within the facilities where they are working.

2.140 Reserved

2.150 Confidentiality

2.151 Freedom of Information

All information in any proposal submitted to the State by Contractor and this Contract is subject to the provisions of the Michigan Freedom of Information Act, 1976 Public Act No. 442, as amended, MCL 15.231, et seq (the "FOIA").

2.152 Confidentiality

Contractor and the State each acknowledge that the other possesses and will continue to possess confidential information that has been developed or received by it. As used in this Section, "Confidential Information" of Contractor shall mean all non-public proprietary information of Contractor (other than Confidential Information of the State as defined below) which is marked confidential, restricted, proprietary or with a similar designation. "Confidential Information" of the State shall mean any information which is retained in confidence by the State (or otherwise required to be held in confidence by the State pursuant to applicable federal, state and local laws and regulations) or which, in the case of tangible materials provided to Contractor by the State pursuant to its performance under this Contract, is marked as confidential, proprietary or with a similar designation by the State. In the case of information of either Contractor or the State "Confidential Information" shall exclude any information (including this Contract) that is publicly available pursuant to the Michigan FOIA.

2.153 Protection of Confidential Information

The State and Contractor will each use at least the same degree of care to prevent disclosing to third parties the Confidential Information of the other as it employs to avoid unauthorized disclosure, publication or dissemination of its own confidential information of like character, but in no event less than reasonable care. Neither Contractor nor the State will (i) make any use of the Confidential Information of the other except as contemplated by this Contract, (ii) acquire any right in or assert any lien against the Confidential Information of the other, or (iii) if requested to do so, refuse for any reason to promptly return the other party's Confidential Information to the other party. Each party will limit disclosure of the other party's Confidential Information to employees and Subcontractors who must have access in order to fulfill the purposes of this Contract. Disclosure to, and use by, a Subcontractor is permissible where (A) use of a Subcontractor is authorized under this Contract, (B) such disclosure is necessary or otherwise naturally occurs in connection with work that is within such Subcontractor's scope of responsibility, and (C) Contractor obligates the Subcontractor in a written Contract to maintain the State's Confidential Information in confidence. At the State's request, any employee of Contractor and of any Subcontractor having access or continued access to the State's Confidential Information may be required to execute an acknowledgment that the employee has been advised of Contractor's and the Subcontractor's obligations under this Section and of the employee's obligation to Contractor or Subcontractor, as the case may be, to protect such Confidential Information from unauthorized use or disclosure.



2.154 Exclusions

Notwithstanding the foregoing, the provisions of this Section will not apply to any particular information which the State or Contractor can demonstrate (i) was, at the time of disclosure to it, in the public domain; (ii) after disclosure to it, is published or otherwise becomes part of the public domain through no fault of the receiving party; (iii) was in the possession of the receiving party at the time of disclosure to it without an obligation of confidentiality; (iv) was received after disclosure to it from a third party who had a lawful right to disclose such information to it without any obligation to restrict its further disclosure; or (v) was independently developed by the receiving party without reference to Confidential Information of the furnishing party. Further, the provisions of this Section will not apply to any particular Confidential Information to the extent the receiving party is required by law to disclose such Confidential Information, provided that the receiving party (i) promptly provides the furnishing party with notice of the legal request, and (ii) assists the furnishing party in resisting or limiting the scope of such disclosure as reasonably requested by the furnishing party.

2.155 No Implied Rights

Nothing contained in this Section shall be construed as obligating a party to disclose any particular Confidential Information to the other party, or as granting to or conferring on a party, expressly or impliedly, any right or license to the Confidential Information of the other party.

2.156 Remedies

Each party acknowledges that, if it breaches (or attempts or threatens to breach) its obligations under this Section, the other party may be irreparably harmed. Accordingly, if a court of competent jurisdiction should find that a party has breached (or attempted or threatened to breach) any such obligations, the non-breaching party shall be entitled to seek an injunction preventing such breach (or attempted or threatened breach).

2.157 Security Breach Notification

In the event of a breach of this Section, Contractor shall take (i) prompt corrective action to cure any such deficiencies and (ii) any action pertaining to such unauthorized disclosure required by applicable federal and state laws and regulations. Contractor and the State will cooperate to mitigate, to the extent practicable, the effects of any breach, intrusion, or unauthorized use or disclosure. Contractor shall report to the State in writing any use or disclosure of Confidential Information, whether suspected or actual, other than as provided for by the Contract within ten (10) days of becoming aware of such use or disclosure or such shorter time period as is reasonable under the circumstances.

2.158 Survival

The parties' respective obligations under this Section shall survive the termination or expiration of this Contract for any reason.

2.159 Destruction of Confidential Information

Promptly upon termination or cancellation of the Contract for any reason, Contractor shall certify to the State that Contractor has destroyed all State Confidential Information.

2.160 Proprietary Rights

2.161a Ownership

Ownership of Work Product by State. All Deliverables shall be owned by the State and shall be considered works made for hire by the Contractor for the State. The State shall own all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables where the rights are vested with the contractor

Vesting of Rights. With the sole exception of any preexisting licensed works identified in the **Statement of Work or applicable purchase order** the Contractor shall assign, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any such Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon State's request, the Contractor and/or its personnel shall confirm such assignment by execution and delivery of the assignments, confirmations of assignment, or other written instruments as the State may request. The State shall have the right to obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.



2.162 Source Code Escrow

- (a) Definition. "Source Code Escrow Package" shall mean:
- (i) A complete copy in machine-readable form of the source code and executable code of the Licensed Software, including any updates or new releases of the product;
 - (ii) A complete copy of any existing design documentation and user documentation, including any updates or revisions; and/or
 - (iii) Complete instructions for compiling and linking every part of the source code into executable code for purposes of enabling verification of the completeness of the source code as provided below. Such instructions shall include precise identification of all compilers, library packages, and linkers used to generate executable code.
- (b) Delivery of Source Code into Escrow. Contractor shall deliver a Source Code Escrow Package to the Escrow Agent, pursuant to the Escrow Contract, which shall be entered into on commercially reasonable terms subject to the provisions of this Contract within thirty (30) days of the execution of this Contract.
- (c) Delivery of New Source Code into Escrow. If at anytime during the term of this Contract, the Contractor provides a maintenance release or upgrade version of the Licensed Software, Contractor shall within ten (10) days deposit with the Escrow Agent, in accordance with the Escrow Contract, a Source Code Escrow Package for the maintenance release or upgrade version, and provide the State with notice of the delivery.
- (d) Verification. The State reserves the right at any time, but not more than once a year, either itself or through a third party contractor, upon thirty (30) days written notice, to seek verification of the Source Code Escrow Package.
- (e) Escrow Fees. All fees and expenses charged by the Escrow Agent will be paid by the Contractor.
- (f) Release Events. The Source Code Escrow Package may be released from escrow to the State, temporarily or permanently, upon the occurrence of one or more of the following:
- (i) The Contractor becomes insolvent, makes a general assignment for the benefit of creditors, files a voluntary petition of bankruptcy, suffers or permits the appointment of a receiver for its business or assets, becomes subject to any proceeding under bankruptcy or insolvency law, whether domestic or foreign;
 - (ii) The Contractor has wound up or liquidated its business voluntarily or otherwise and the State has reason to believe that such events will cause the Contractor to fail to meet its warranties and maintenance obligations in the foreseeable future;
 - (iii) The Contractor voluntarily or otherwise discontinues support of the provided products or fails to support the products in accordance with its maintenance obligations and warranties.
- (g) Release Event Procedures. If the State desires to obtain the Source Code Escrow Package from the Escrow Agent upon the occurrence of an Event in **Section 2.162(f)**, then:
- (i) The State shall comply with all procedures in the Escrow Contract;
 - (ii) The State shall maintain all materials and information comprising the Source Code Escrow Package in confidence in accordance with this Contract;
 - (iii) If the release is a temporary one, then the State shall promptly return all released materials to Contractor when the circumstances leading to the release are no longer in effect.
- (h) License. Upon release from the Escrow Agent pursuant to an event described in **Section 2.162(f)**, the Contractor automatically grants the State a non-exclusive, irrevocable license to use, reproduce, modify, maintain, support, update, have made, and create Derivative Works. Further, the State shall have the right to use the Source Code Escrow Package in order to maintain and support the Licensed Software so that it can be used by the State as set forth in this Contract.
- (i) Derivative Works. Any Derivative Works to the source code released from escrow which are made by or on behalf of the State shall be the sole property of the State. The State acknowledges that its ownership rights are limited solely to the Derivative Works and do not include any ownership rights in the underlying source code.



2.163 *Rights in Data*

(a) The State will be and remain the owner of all data made available by the State to Contractor or its agents, Subcontractors or representatives pursuant to the Contract. Contractor will not use the State's data for any purpose other than providing the Services, nor will any part of the State's data be disclosed, sold, assigned, leased or otherwise disposed of to the general public or to specific third parties or commercially exploited by or on behalf of Contractor, nor will any employee of Contractor other than those on a strictly need to know basis have access to the State's data. Contractor will not possess or assert any lien or other right against the State's data. Without limiting the generality of this Section, Contractor shall only use personally identifiable information as strictly necessary to provide the Services and shall disclose such information only to its employees who have a strict need to know such information. Contractor shall comply at all times with all laws and regulations applicable to such personally identifiable information.

(b) The State is and shall remain the owner of all State-specific data pursuant to the Contract. The State may use the data provided by the Contractor for any purpose. The State will not possess or assert any lien or other right against the Contractor's data. Without limiting the generality of this Section, the State shall only use personally identifiable information as strictly necessary to utilize the Services and shall disclose such information only to its employees who have a strict need to know such information, except as provided by law. The State shall comply at all times with all laws and regulations applicable to such personally identifiable information. Other material developed and provided to the State shall remain the State's sole and exclusive property.

2.164 *Ownership of Materials*

State and Contractor will continue to own their respective proprietary technologies developed before entering into the Contract. Any hardware bought through the Contractor by the State, and paid for by the State, will be owned by the State. Any software licensed through the Contractor and sold to the State, will be licensed directly to the State.

2.165 *Standard Software*

If applicable and necessary, all Standard Software used in performing the Services shall be provided to the State under a separate license agreement between the State and the owner (or authorized licensor) of such software. Standard Software to be licensed to the State is listed in **Exhibit J** (do not exist).

2.166 *Pre-existing Materials for Custom Software Deliverables*

Neither Contractor nor any of its Subcontractors shall incorporate any preexisting materials (including Standard Software) into Custom Software Deliverables or use any pre-existing materials to produce Custom Software Deliverables if such pre-existing materials will be needed by the State in order to use the Custom Software Deliverables unless (i) such pre-existing materials and their owners are identified to the State in writing and (ii) such pre-existing materials are either readily commercially available products for which Contractor or its Subcontractor, as the case may be, has obtained a license (in form and substance approved by the State) in the name of the State, or are materials that Contractor or its Subcontractor, as the case may be, has the right to license to the State and has licensed to the State on terms and conditions approved by the State prior to using such pre-existing materials to perform the Services.

2.167 *General Skills*

Notwithstanding anything to the contrary in this Section, each party, its Subcontractors and their personnel shall be free to use and employ its and their general skills, know-how and expertise, and to use, disclose and employ any generalized ideas, concepts, know-how, methods, techniques or skills gained or learned during the course of performing the Services, so long as it or they acquire and apply the foregoing without disclosure of any confidential or proprietary information of the other party.

2.170 *Warranties And Representations*

2.171 *Warranties and Representations*

The Contractor represents and warrants:

(a) It is capable in all respects of fulfilling and shall fulfill all of its obligations under this Contract. The performance of all obligations under this Contract shall be provided in a timely, professional, and workman-like manner and shall meet the performance and operational standards required under this Contract.



- (b) The Contract Appendices, Attachments and Exhibits identify the equipment and software and services necessary for the Deliverable(s) to perform and Services to operate in compliance with the Contract's requirements and other standards of performance.
- (c) It is the lawful owner or licensee of any Deliverable licensed or sold to the State by Contractor or developed by Contractor under this Contract, and Contractor has all of the rights necessary to convey to the State the ownership rights or licensed use, as applicable, of any and all Deliverables. None of the Deliverables provided by Contractor to the State under this Contract, nor their use by the State, will infringe the patent, copyright, trade secret, or other proprietary rights of any third party.
- (d) If, under this Contract, Contractor procures any equipment, software or other Deliverable for the State (including equipment, software and other Deliverables manufactured, re-marketed or otherwise sold by Contractor under Contractor's name), then in addition to Contractor's other responsibilities with respect to such items in this Contract, Contractor shall assign or otherwise transfer to the State or its designees, or afford the State the benefits of, any manufacturer's warranty for the Deliverable.
- (e) The contract signatory has the power and authority, including any necessary corporate authorizations, necessary to enter into this Contract, on behalf of Contractor.
- (f) It is qualified and registered to transact business in all locations where required.
- (g) Neither the Contractor nor any Affiliates, nor any employee of either, has, shall have, or shall acquire, any contractual, financial, business, or other interest, direct or indirect, that would conflict in any manner or degree with Contractor's performance of its duties and responsibilities to the State under this Contract or otherwise create an appearance of impropriety with respect to the award or performance of this Agreement. Contractor shall notify the State within two (2) days of any such interest that may be incompatible with the interests of the State.
- (h) Neither Contractor nor any Affiliates, nor any employee of either has accepted or shall accept anything of value based on an understanding that the actions of the Contractor or Affiliates or employee on behalf of the State would be influenced. Contractor shall not attempt to influence any State employee by the direct or indirect offer of anything of value.
- (i) Neither Contractor nor any Affiliates, nor any employee of either has paid or agreed to pay any person, other than bona fide employees and consultants working solely for Contractor or such Affiliate, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract.
- (j) The prices proposed by Contractor were arrived at independently, without consultation, communication, or agreement with any other bidder for the purpose of restricting competition; the prices quoted were not knowingly disclosed by Contractor to any other bidder; and no attempt was made by Contractor to induce any other person to submit or not submit a proposal for the purpose of restricting competition.
- (k) All financial statements, reports, and other information furnished by Contractor to the State as part of its response to the RFP or otherwise in connection with the award of this Contract fairly and accurately represent the business, properties, financial condition, and results of operations of Contractor as of the respective dates, or for the respective periods, covered by such financial statements, reports, other information. Since the respective dates or periods covered by such financial statements, reports, or other information, there have been no material adverse change in the business, properties, financial condition, or results of operations of Contractor.
- (m) All written information furnished to the State by or behalf of Contractor in connection with this Contract, including its bid, is true, accurate, and complete, and contains no untrue statement of material fact or omits any material fact necessary to make such information not misleading.



(n) After reasonable due diligence to the best of our belief it is not in material default or breach of any other contract or agreement that it may have with the State or any of its departments, commissions, boards, or agencies. Contractor further represents and warrants that it has not been a party to any contract with the State or any of its departments that was terminated by the State or such department within the previous five (5) years for the reason that Contractor failed to perform or otherwise breached an obligation of such contract.

2.172 Software Warranties

(a) Performance Warranty

The Contractor represents and warrants that Deliverables, after Final Acceptance, will substantially perform and operate in compliance with the requirements and other standards of performance contained in this Contract (including all descriptions, specifications and drawings made a part of the Contract) for a period of ninety (90) days. In the event of a breach of this warranty, Contractor will promptly correct the affected Deliverable(s) at no charge to the State.

(b) No Surreptitious Code Warranty

The Contractor represents and warrants that no copy of licensed Software provided to the State contains or will contain any Self-Help Code or any Unauthorized Code as defined below. This warranty is referred to in this Contract as the "No Surreptitious Code Warranty."

As used in this Contract, "Self-Help Code" means any back door, time bomb, drop dead device, or other software routine designed to disable a computer program automatically with the passage of time or under the positive control of a person other than the licensee of the software. Self-Help Code does not include Software routines in a computer program, if any, designed to permit an owner of the computer program (or other person acting by authority of the owner) to obtain access to a licensee's computer system(s) (e.g. remote access via modem) for purposes of maintenance or technical support.

As used in this Contract, "Unauthorized Code" means any virus, Trojan horse, spyware, worm or other Software routines or components designed to permit unauthorized access to disable, erase, or otherwise harm software, equipment, or data; or to perform any other such actions. The term Unauthorized Code does not include Self-Help Code. Unauthorized Code does not include Software routines in a computer program, if any, designed to permit an owner of the computer program (or other person acting by authority of the owner) to obtain access to a licensee's computer system(s) (e.g. remote access via modem) for purposes of maintenance or technical support.

In addition, Contractor will use up-to-date commercial virus detection software to detect and remove any viruses from any software prior to delivering it to the State.

(c) Calendar Warranty

The Contractor represents and warrants that all software for which the Contractor either sells or licenses to the State of Michigan and used by the State prior to, during or after the calendar year 2000, includes or shall include, at no added cost to the State, design and performance so the State shall not experience software abnormality and/or the generation of incorrect results from the software, due to date oriented processing, in the operation of the business of the State of Michigan.

The software design, to insure calendar year rollover compatibility, shall include, but is not limited to: data structures (databases, data files, etc.) that provide 4-digit date century; stored data that contain date century recognition, including, but not limited to, data stored in databases and hardware device internal system dates; calculations and program logic (e.g., sort algorithms, calendar generation, event recognition, and all processing actions that use or produce date values) that accommodates same century and multi-century formulas and date values; interfaces that supply data to and receive data from other systems or organizations that prevent non-compliant dates and data from entering any State system; user interfaces (i.e., screens, reports, etc.) that accurately show 4 digit years; and assurance that the year 2000 shall be correctly treated as a leap year within all calculation and calendar logic.

(d) Third-party Software Warranty



The Contractor represents and warrants that it will disclose the use or incorporation of any third-party software into the Deliverables. At the time of Delivery, the Contractor shall provide in writing the name and use of any Third-party Software, including information regarding the Contractor's authorization to include and utilize such software. The notice shall include a copy of any ownership agreement or license that authorizes the Contractor to use the Third-party Software.

2.173 Equipment Warranty

RESERVED

2.174 Physical Media Warranty

(a) Contractor represents and warrants that each licensed copy of the Software provided by the Contractor is free from physical defects in the media that tangibly embodies the copy. This warranty does not apply to defects discovered more than thirty (30) days after that date of Final Acceptance of the Software by the State. This warranty does not apply to defects arising from acts of Excusable Failure. If the Contractor breaches this warranty, then the State shall be entitled to replacement of the non-compliant copy by Contractor, at Contractor's expense (including shipping and handling).

2.175a DISCLAIMER

THE FOREGOING EXPRESS WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES AND EACH PARTY EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

2.175b Standard Warranties

RESERVED

2.176 Consequences For Breach

In addition to any remedies available in law, if the Contractor breaches any of the warranties contained in this section, such breach may be considered as a default in the performance of a material obligation of this Contract.

2.180 Insurance

2.181 Liability Insurance

(a) Liability Insurance

The Contractor is required to provide proof of the minimum levels of insurance coverage as indicated below. The purpose of this coverage shall be to protect the State from claims which may arise out of or result from the Contractor's performance of services under the terms of this Contract, whether such services are performed by the Contractor, or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

The Contractor waives all rights against the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents for recovery of damages to the extent these damages are covered by the insurance policies the Contractor is required to maintain pursuant to this Contract.

All insurance coverage provided relative to this Contract/Purchase Order are PRIMARY and NON-CONTRIBUTING to any comparable liability insurance (including self-insurances) carried by the State.

The insurance shall be written for not less than any minimum coverage specified in this Contract or required by law, whichever is greater.

The insurers selected by Contractor shall have an A.M. Best rating of A or better, or as otherwise approved in writing by the State, or if such ratings are no longer available, with a comparable rating from a recognized insurance rating agency. All policies of insurance required in this Contract shall be issued by companies that have been approved to do business in the State.

See http://www.mi.gov/cis/0,1607,7-154-10555_22535---,00.html.

Where specific limits are shown, they are the minimum acceptable limits. If Contractor's policy contains higher limits, the State shall be entitled to coverage to the extent of such higher limits. Before the Contract is signed by both parties or before the purchase order is issued by the State, the Contractor must furnish to the Director



of Purchasing Operations, certificate(s) of insurance verifying insurance coverage ("Certificates"). The Certificate must be on the standard "accord" form or equivalent. **THE CONTRACT OR PURCHASE ORDER NO. MUST BE SHOWN ON THE CERTIFICATE OF INSURANCE TO ASSURE CORRECT FILING.** All Certificate(s) are to be prepared and submitted by the Insurance Provider. All Certificate(s) shall contain a provision indicating that coverage afforded under the policies WILL NOT BE CANCELLED, MATERIALLY CHANGED, OR NOT RENEWED without THIRTY (30) days prior written notice, except for ten (10) days for non-payment of premium, having been given to the Director of Purchasing Operations, Department of Management and Budget. The notice must include the Contract or Purchase Order number affected and be mailed to: Director, Purchasing Operations, Department of Management and Budget, P.O. Box 30026, Lansing, Michigan 48909. Failure to provide evidence of coverage, may, at the State's sole option, result in this Contract's termination.

The Contractor is required to pay for and provide the type and amount of insurance checked ☒ below:

- ☒ 1. Commercial General Liability with the following minimum coverage:
 \$2,000,000 General Aggregate Limit other than Products/Completed Operations
 \$2,000,000 Products/Completed Operations Aggregate Limit
 \$1,000,000 Personal & Advertising Injury Limit
 \$1,000,000 Each Occurrence Limit
 \$500,000 Fire Damage Limit (any one fire)

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSURED on the Commercial General Liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

- ☒ 2. If a motor vehicle is used to provide services or products under this Contract, the Contractor must have vehicle liability insurance on any auto including owned, hired and non-owned vehicles used in Contractor's business for bodily injury and property damage as required by law.

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSURED on the vehicle liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

- ☒ 3. Workers' compensation coverage must be provided in accordance with applicable laws governing the employees and employers work activities in the state of the Contractor's domicile. If the applicable coverage is provided by a self-insurer, proof must be provided of approved self-insured authority by the jurisdiction of domicile. For employees working outside of the state of qualification, Contractor must provide appropriate certificates of insurance proving mandated coverage levels for the jurisdictions where the employees' activities occur.

Any certificates of insurance received must also provide a list of states where the coverage is applicable.

The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company. This provision shall not be applicable where prohibited or limited by the laws of the jurisdiction in which the work is to be performed.

- ☒ 4. Employers liability insurance with the following minimum limits:
 \$100,000 each accident
 \$100,000 each employee by disease
 \$500,000 aggregate disease

- ☐ 5. Employee Fidelity, including Computer Crimes, insurance naming the State as a loss payee, providing coverage for direct loss to the State and any legal liability of the State arising out of or related to fraudulent or dishonest acts committed by the employees of Contractor or its Subcontractors, acting alone or in



collusion with others, in a minimum amount of one million dollars (\$1,000,000.00) with a maximum deductible of fifty thousand dollars (\$50,000.00).

- ☐ 6. Umbrella or Excess Liability Insurance in a minimum amount of ten million dollars (\$10,000,000.00), which shall apply, at a minimum, to the insurance required in Subsection 1 (Commercial General Liability) above.
- ☐ 7. Professional Liability (Errors and Omissions) Insurance with the following minimum coverage: three million dollars (\$3,000,000.00) each occurrence and three million dollars (\$3,000,000.00) annual aggregate.
- ☐ 8. Fire and Personal Property Insurance covering against any loss or damage to the office space used by Contractor for any reason under this Contract, and the equipment, software and other contents of such office space, including without limitation, those contents used by Contractor to provide the Services to the State, up to the replacement value thereof, where such office space and its contents are under the care, custody and control of Contractor. Such policy shall cover all risks of direct physical loss or damage, including without limitation, flood and earthquake coverage and coverage for computer hardware and software. The State shall be endorsed on the policy as a loss payee as its interests appear.

(b) Subcontractors

Except where the State has approved in writing a Contractor subcontract with other insurance provisions, Contractor shall require all of its Subcontractors under this Contract to purchase and maintain the insurance coverage as described in this Section for the Contractor in connection with the performance of work by those Subcontractors. Alternatively, Contractor may include any Subcontractors under Contractor's insurance on the coverage required in this Section. Subcontractor(s) shall fully comply with the insurance coverage required in this Section. Failure of Subcontractor(s) to comply with insurance requirements does not limit Contractor's liability or responsibility.

(c) Certificates of Insurance and Other Requirements

Contractor shall furnish to the Office of Purchasing Operations certificate(s) of insurance verifying insurance coverage or providing satisfactory evidence of self-insurance as required in this Section (the "Certificates"). Before the Contract is signed, and not less than 20 days before the insurance expiration date every year thereafter, the Contractor shall provide evidence that the State and its agents, officers and employees are listed as additional insureds under each commercial general liability and commercial automobile liability policy. In the event the State approves the representation of the State by the insurer's attorney, the attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

Contractor shall maintain all required insurance coverage throughout the term of the Contract and any extensions thereto and, in the case of claims-made Commercial General Liability policies, shall secure tail coverage for at least three (3) years following the expiration or termination for any reason of this Contract. The minimum limits of coverage specified above are not intended, and shall not be construed, to limit any liability or indemnity of Contractor under this Contract to any indemnified party or other persons. Contractor shall be responsible for all deductibles with regard to such insurance. If Contractor fails to pay any premium for required insurance as specified in this Contract, or if any insurer cancels or significantly reduces any required insurance as specified in this Contract without the State's written consent, at the State's election (but without any obligation to do so) after the State has given Contractor at least thirty (30) days written notice, the State may pay such premium or procure similar insurance coverage from another company or companies; and at the State's election, the State may deduct the entire cost (or part thereof) from any payment due Contractor, or Contractor shall pay the entire cost (or any part thereof) upon demand by the State.

2.190 Indemnification

2.191 Indemnification

(a) General Indemnification

To the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties), accruing or resulting to



any person, firm or corporation that may be injured or damaged by the Contractor in the performance of this Contract and that are attributable to the negligence or tortious acts of the Contractor or any of its subcontractors, or by anyone else for whose acts any of them may be liable.

(b) Code Indemnification

To the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State from any claim, loss, or expense arising from Contractor's breach of the No Surreptitious Code Warranty (c)

Employee Indemnification

In any and all claims against the State of Michigan, its departments, divisions, agencies, sections, commissions, officers, employees and agents, by any employee of the Contractor or any of its subcontractors, the indemnification obligation under the Contract shall not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Contractor or any of its subcontractors under worker's disability compensation acts, disability benefit acts or other employee benefit acts. This indemnification clause is intended to be comprehensive. Any overlap in provisions, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other provisions.

(d) Patent/Copyright Infringement Indemnification

To the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that such action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Contractor or its subcontractors, or the operation of such equipment, software, commodity or service, or the use or reproduction of any documentation provided with such equipment, software, commodity or service infringes any United States patent, copyright, trademark or trade secret of any person or entity, which is enforceable under the laws of the United States.

In addition, should the equipment, software, commodity, or service, or its operation, become or in the State's or Contractor's opinion be likely to become the subject of a claim of infringement, the Contractor shall at the Contractor's sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if such option is not reasonably available to the Contractor, (ii) replace or modify to the State's satisfaction the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if such option is not reasonably available to Contractor, (iii) accept its return by the State with appropriate credits to the State against the Contractor's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

Notwithstanding the foregoing, the Contractor shall have no obligation to indemnify or defend the State for, or to pay any costs, damages or attorneys' fees related to, any claim based upon (i) equipment developed based on written specifications of the State; or (ii) use of the equipment in a configuration other than implemented or approved in writing by the Contractor, including, but not limited to, any modification of the equipment by the State; or (iii) the combination, operation, or use of the equipment with equipment or software not supplied by the Contractor under this Contract.

2.192 Continuation of Indemnification Obligations

The Contractor's duty to indemnify pursuant to this Section continues in full force and effect, notwithstanding the expiration or early cancellation of the Contract, with respect to any claims based on facts or conditions that occurred prior to expiration or cancellation.

2.193 Indemnification Procedures

The procedures set forth below shall apply to all indemnity obligations under this Contract.

(a) After receipt by the State of notice of the action or proceeding involving a claim in respect of which it will seek indemnification, the State shall promptly notify Contractor of such claim in writing and take or assist Contractor in taking, as the case may be, any reasonable action to avoid the imposition of a default judgment against Contractor. No failure to notify Contractor shall relieve Contractor of its indemnification obligations except to the extent that Contractor can demonstrate damages attributable to such failure. Within ten (10) days following receipt of written notice from the State relating to any claim, Contractor shall notify the



State in writing whether Contractor agrees to assume control of the defense and settlement of that claim (a "Notice of Election"). After notifying Contractor of a claim and prior to the State receiving Contractor's Notice of Election, the State shall be entitled to defend against the claim, at Contractor's expense, and Contractor will be responsible for any reasonable costs incurred by the State in defending against the claim during such period.

(b) If Contractor delivers a Notice of Election relating to any claim: (i) the State shall be entitled to participate in the defense of such claim and to employ counsel at its own expense to assist in the handling of such claim and to monitor and advise the State about the status and progress of the defense; (ii) Contractor shall, at the request of the State, demonstrate to the reasonable satisfaction of the State, Contractor's financial ability to carry out its defense and indemnity obligations under this Contract; (iii) Contractor shall periodically advise the State about the status and progress of the defense and shall obtain the prior written approval of the State before entering into any settlement of such claim or ceasing to defend against such claim and (iv) to the extent that any principles of Michigan governmental or public law may be involved or challenged, the State shall have the right, at its own expense, to control the defense of that portion of such claim involving the principles of Michigan governmental or public law. Notwithstanding the foregoing, the State may retain control of the defense and settlement of a claim by written notice to Contractor given within ten (10) days after the State's receipt of Contractor's information requested by the State pursuant to clause (ii) of this paragraph if the State determines that Contractor has failed to demonstrate to the reasonable satisfaction of the State Contractor's financial ability to carry out its defense and indemnity obligations under this Section. Any litigation activity on behalf of the State of Michigan, or any of its subdivisions pursuant to this Section, must be coordinated with the Department of Attorney General. In the event the insurer's attorney represents the State pursuant to this Section, the insurer's attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

(c) If Contractor does not deliver a Notice of Election relating to any claim of which it is notified by the State as provided above, the State shall have the right to defend the claim in such manner as it may deem appropriate, at the cost and expense of Contractor. If it is determined that the claim was one against which Contractor was required to indemnify the State, upon request of the State, Contractor shall promptly reimburse the State for all such reasonable costs and expenses.

2.200 Limits of Liability and Excusable Failure

2.201 Limits of Liability

The Contractor's liability for damages to the State shall be limited to two times the value of the Contract or \$200,000 which ever is higher. The foregoing limitation of liability shall not apply to claims for infringement of United States patent, copyright, trademarks or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

The State's liability for damages to the Contractor shall be limited to the value of the Contract.

Neither the Contractor nor the State shall be liable to each other, regardless of the form of action, for consequential, incidental, indirect, or special damages. This limitation of liability shall not apply to claims for infringement of United States patent, copyright, trademark or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

2.202 Excusable Failure

Neither party will be liable for any default, damage or delay in the performance of its obligations under the Contract to the extent such default, damage or delay is caused by government regulations or requirements (executive, legislative, judicial, military or otherwise), power failure, electrical surges or current fluctuations, lightning, earthquake, war, water or other forces of nature or acts of God, delays or failures of transportation, equipment shortages, suppliers' failures, or acts or omissions of common carriers, fire; riots, civil disorders; strikes or other labor disputes, embargoes; injunctions (provided the injunction was not issued as a result of any fault or negligence of the party seeking to have its default or delay excused); or any other cause beyond the reasonable control of such party; provided the non-performing party and its Subcontractors are without fault



in causing such default or delay, and such default or delay could not have been prevented by reasonable precautions and cannot reasonably be circumvented by the non-performing party through the use of alternate sources, workaround plans or other means, including disaster recovery plans.

In such event, the non-performing party will be excused from any further performance or observance of the obligation(s) so affected for as long as such circumstances prevail and such party continues to use its commercially reasonable efforts to recommence performance or observance whenever and to whatever extent possible without delay and provided further that such party promptly notifies the other party in writing of the inception of the excusable failure occurrence, and also of its abatement or cessation.

If any of the above-enumerated circumstances substantially prevent, hinder, or delay Contractor's performance of the Services/provision of Deliverables for more than ten (10) Business Days, and the State determines that performance is not likely to be resumed within a period of time that is satisfactory to the State in its reasonable discretion, then at the State's option: (a) the State may procure the affected Services/Deliverables from an alternate source, and the State shall not be liable for payment for the unperformed Services/ Deliverables not provided under the Contract for so long as the delay in performance shall continue; (b) the State may terminate any portion of the Contract so affected and the charges payable there under shall be equitably adjusted to reflect those Services/Deliverables terminated; or (c) the State may terminate the affected Statement of Work without liability to Contractor as of a date specified by the State in a written notice of termination to Contractor, except to the extent that the State shall pay for Services/Deliverables provided through the date of termination.

Contractor will not have the right to any additional payments from the State as a result of any Excusable Failure occurrence or to payments for Services not rendered/Deliverables not provided as a result of the Excusable Failure condition. Defaults or delays in performance by Contractor which are caused by acts or omissions of its Subcontractors will not relieve Contractor of its obligations under the Contract except to the extent that a Subcontractor is itself subject to an Excusable Failure condition described above and Contractor cannot reasonably circumvent the effect of the Subcontractor's default or delay in performance through the use of alternate sources, workaround plans or other means.

2.203 Disaster Recovery

Contractor and the State recognize that the State provides essential services in times of natural or man-made disasters. Therefore, except as so mandated by Federal disaster response requirements, Contractor personnel dedicated to providing Services/Deliverables under this Contract will provide the State with priority service for repair and work around in the event of a natural or manmade disaster.

2.210 Termination/Cancellation by the State

The State may terminate this Contract without further liability or penalty to the State, its departments, divisions, agencies, offices, commissions, officers, agents and employees for any of the following reasons:

2.211 Termination for Cause

(a) In the event that Contractor breaches any of its material duties or obligations under this Contract (including a Chronic Failure to meet any particular SLA as defined in **Section 2.076**), which are either not capable of or subject to being cured, or are not cured within the time period specified in the written notice of breach provided by the State (such time period not to be less than thirty (30) days), or pose a serious and imminent threat to the health and safety of any person, or the imminent loss, damage or destruction of any real or tangible personal property, the State may, having provided written notice of termination to Contractor, terminate this Contract in whole or in part, for cause, as of the date specified in the notice of termination.

(b) In the event that this Contract is terminated for cause, in addition to any legal remedies otherwise available to the State by law or equity, Contractor shall be responsible for all costs incurred by the State in terminating this Contract, including but not limited to, State administrative costs, reasonable attorneys' fees and court costs, and any reasonable additional costs the State may incur to procure the Services/Deliverables required by this Contract from other sources. Re-procurement costs shall not be considered by the parties to be consequential, indirect or incidental damages, and shall not be excluded by any other terms otherwise included in this Contract, provided such costs are not in excess of fifty percent (50%) more than the prices for such Service/Deliverables provided under this Contract (c) In the event the State chooses to partially terminate this Contract for cause, charges payable under this Contract will be equitably



adjusted to reflect those Services/Deliverables that are terminated and the State shall pay for all Services/Deliverables for which Final Acceptance has been granted provided up to the termination date. Services and related provisions of this Contract that are terminated for cause shall cease on the effective date of the termination.

(d) In the event this Contract is terminated for cause pursuant to this Section, and it is determined, for any reason, that Contractor was not in breach of contract pursuant to the provisions of this section, that termination for cause shall be deemed to have been a termination for convenience, effective as of the same date, and the rights and obligations of the parties shall be limited to that otherwise provided in this Contract for a termination for convenience.

2.212 Termination for Convenience

The State may terminate this Contract for its convenience, in whole or part, if the State determines that such a termination is in the State's best interest. Reasons for such termination shall be left to the sole discretion of the State and may include, but not necessarily be limited to (a) the State no longer needs the Services or products specified in the Contract, (b) relocation of office, program changes, changes in laws, rules, or regulations make implementation of the Services no longer practical or feasible, (c) unacceptable prices for Additional Services or New Work requested by the State, or (d) falsification or misrepresentation, by inclusion or non-inclusion, of information material to a response to any RFP issued by the State. The State may terminate this Contract for its convenience, in whole or in part, by giving Contractor written notice at least thirty (30) days prior to the date of termination. If the State chooses to terminate this Contract in part, the charges payable under this Contract shall be equitably adjusted to reflect those Services/Deliverables that are terminated and be responsible for all unavoidable costs, such as unamortized leases or restocking charges. Services and related provisions of this Contract that are terminated for cause shall cease on the effective date of the termination.

2.213 Non-Appropriation

(a) Contractor acknowledges that, if this Contract extends for several fiscal years, continuation of this Contract is subject to appropriation or availability of funds for this Contract. If funds to enable the State to effect continued payment under this Contract are not appropriated or otherwise made available, the State shall have the right to terminate this Contract and all affected Statements of Work, in whole or in part, at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of termination to Contractor. The State shall give Contractor at least thirty (30) days advance written notice of termination for non-appropriation or unavailability (or such time as is available if the State receives notice of the final decision less than thirty (30) days before the funding cutoff).

(b) If funding for the Contract is reduced by law, or funds to pay Contractor for the agreed-to level of the Services or production of Deliverables to be provided by Contractor are not appropriated or otherwise made available, the State may, upon thirty (30) days written notice to Contractor, reduce the level of the Services or the change the production of Deliverables in such manner and for such periods of time as the State may elect. The charges payable under this Contract will be equitably adjusted to reflect any equipment, services or commodities not provided by reason of such reduction.

(c) In the event the State terminates this Contract, eliminates certain Deliverables, or reduces the level of Services to be provided by Contractor pursuant to this Section, the State shall pay Contractor for all Work-in-Process performed through the effective date of the termination or reduction in level, as the case may be and as determined by the State, to the extent funds are available. For the avoidance of doubt, this Section will not preclude Contractor from reducing or stopping Services/Deliverables and/or raising against the State in a court of competent jurisdiction, any claim for a shortfall in payment for Services performed or Deliverables finally accepted before the effective date of termination.

2.214 Criminal Conviction

The State may terminate this Contract immediately and without further liability or penalty in the event Contractor, an officer of Contractor, or an owner of a 25% or greater share of Contractor is convicted of a criminal offense incident to the application for, or performance of, a State, public or private Contract or subcontract; convicted of a criminal offense, including any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, attempting to influence a public employee to breach the ethical conduct standards for State of Michigan employees; convicted under State or federal antitrust statutes; or convicted of any other criminal offense which in the sole discretion of the State reflects upon Contractor's business integrity.



2.215 Approvals Rescinded

The State may terminate this Contract without further liability or penalty in the event any final administrative or judicial decision or adjudication disapproves a previously approved request for purchase of personal services pursuant to Constitution 1963, Article 11, § 5, and Civil Service Rule 7-1. Termination may be in whole or in part and may be immediate as of the date of the written notice to Contractor or may be effective as of the date stated in such written notice..

2.216 Rights and Obligations Upon Termination

(a) If this Contract is terminated by the State for any reason, Contractor shall (a) stop all work as specified in the notice of termination, (b) take any action that may be necessary, or that the State may direct, for preservation and protection of Deliverables or other property derived or resulting from this Contract that may be in Contractor's possession, (c) return all materials and property provided directly or indirectly to Contractor by any entity, agent or employee of the State, (d) in the event that the Contractor maintains title in Deliverables that is intended to be transferred to the State at the termination of the Contract, Contractor will transfer title in, and deliver to, the State, unless otherwise directed, all Deliverables intended to be transferred to the State at the termination of the Contract and which are resulting from the Contract (which shall be provided to the State on an "As-Is" basis except to the extent the amounts paid by the State in respect of such items included compensation to Contractor for the provision of warranty services in respect of such materials), and (e) take any action to mitigate and limit any potential damages, or requests for Contractor adjustment or termination settlement costs, to the maximum practical extent, including terminating or limiting as otherwise applicable those subcontracts and outstanding orders for material and supplies resulting from the terminated Contract.

(b) In the event the State terminates this Contract prior to its expiration for its own convenience, the State shall pay Contractor for all charges due for Services provided prior to the date of termination and, if applicable, as a separate item of payment pursuant to this Contract, for Work In Process, on a percentage of completion basis at the level of completion determined by the State. All completed or partially completed Deliverables prepared by Contractor pursuant to this Contract shall, at the option of the State, become the State's property, and Contractor shall be entitled to receive equitable fair compensation for such Deliverables. Regardless of the basis for the termination, the State shall not be obligated to pay, or otherwise compensate, Contractor for any lost expected future profits, costs or expenses incurred with respect to Services not actually performed for the State.

(c) Upon a good faith termination, the State shall have the right to assume, at its option, any and all subcontracts and agreements for services and deliverables provided under this Contract, and may further pursue completion of the Services/Deliverables under this Contract by replacement contract or otherwise as the State may in its sole judgment deem expedient.

2.217 Reservation of Rights

Any termination of this Contract or any Statement of Work issued under it by a party shall be with full reservation of, and without prejudice to, any rights or remedies otherwise available to such party with respect to any claims arising prior to or as a result of such termination.

2.218 Contractor Transition Responsibilities

In the event this contract is terminated, for convenience or cause, dissolved, voided, rescinded, nullified, expires or is otherwise rendered unenforceable, the Contractor agrees to comply with direction provided by the State to assist in the orderly transition of equipment, services, software, leases, etc. to the State or a third party designated by the State up until the effective date of the termination. In the event of termination or the expiration of this Contract, the Contractor agrees to make all reasonable efforts to effect an orderly transition of services within a reasonable period of time that in no event will exceed ninety (90) days. These efforts shall include, but are not limited to, the following:

(a) Personnel - The Contractor shall work with the State, or a specified third party, to develop a transition plan setting forth the specific tasks and schedule to be accomplished by the parties, to effect an orderly transition. The Contractor shall allow as many personnel as practicable to remain on the job to help the State, or a specified third party, maintain the continuity and consistency of the services required by this Contract. In addition, during or following the transition period, in the event the State requires the Services of the Contractor's subcontractors or vendors, as necessary to meet its needs, Contractor agrees to reasonably, and with good-faith, work with the State to use the Services of Contractor's subcontractors or vendors. Contractor will notify all of Contractor's subcontractors of procedures to be followed during transition.



(b) Information - The Contractor agrees to provide reasonable detailed specifications for all Services/Deliverables needed by the State, or specified third party, to properly provide the Services/Deliverables required under this Contract. The Contractor will provide the State with asset management data generated from the inception of this Contract through the date on which this Contractor is terminated in a comma-delineated format unless otherwise requested by the State. The Contractor will deliver to the State any remaining owed reports and documentation still in Contractor's possession subject to appropriate payment by the State.

(d) Software. - The Contractor shall reasonably assist the State in the acquisition of any Contractor software required to perform the Services/use the Deliverables under this Contract. This shall include any documentation being used by the Contractor to perform the Services under this Contract. If the State transfers any software licenses to the Contractor, those licenses shall, upon expiration of the Contract, transfer back to the State at their current revision level. Upon notification by the State, Contractor may be required to freeze all non-critical changes to Deliverables/Services.

(e) Payment - If the transition results from a termination for any reason, reimbursement shall be governed by the termination provisions of this Contract. If the transition results from expiration, the Contractor will be reimbursed for all reasonable transition costs (i.e. costs incurred within the agreed period after contract expiration that result from transition operations) at the rates specified by **Exhibit D** (does not exist). The Contractor will prepare an accurate accounting from which the State and Contractor may reconcile all outstanding accounts.

2.219 State Transition Responsibilities

In the event that this Contract is terminated, dissolved, voided, rescinded, nullified, or otherwise rendered unenforceable, the State agrees to perform the following obligations, and any others upon which the State and the Contractor agree:

- (a) Reconciling all accounts between the State and the Contractor;
- (b) Completing any pending post-project reviews.

2.220 Termination by Contractor

2.221 Termination by Contractor

If the State materially breaches its obligation to pay Contractor undisputed amounts due and owing under this Contract in accordance with **Section 2.090**, or if the State breaches its other obligations under this Contract to an extent that makes it impossible or commercially impractical for Contractor to perform the Services, and if the State does not cure the breach within the time period specified in a written notice of breach provided to the State by Contractor (such time period not to be less than thirty (30) days), then Contractor may terminate this Contract, in whole or in part based on Statement of Work for cause, as of the date specified in the notice of termination; provided, however, that Contractor must discharge its obligations under **Section 2.250** before any such termination.

2.230 Stop Work

2.231 Stop Work Orders

The State may, at any time, by written stop work order to Contractor, require that Contractor stop all, or any part, of the work called for by the Contract for a period of up to ninety (90) calendar days after the stop work order is delivered to Contractor, and for any further period to which the parties may agree. The stop work order shall be specifically identified as such and shall indicate that it is issued under this **Section 2.230**. Upon receipt of the stop work order, Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the stop work order during the period of work stoppage. Within the period of the stop work order, the State shall either: (a) cancel the stop work order; or (b) terminate the work covered by the stop work order as provided in **Section 2.210**.

2.232 Cancellation or Expiration of Stop Work Order

If a stop work order issued under this **Section 2.230** is canceled or the period of the stop work order or any extension thereof expires, Contractor shall resume work. The parties shall agree upon an equitable adjustment in the delivery schedule, the Contract price, or both, and the Contract shall be modified, in writing, accordingly, if: (a) the stop work order results in an increase in the time required for, or in Contractor's costs properly allocable to, the performance of any part of the Contract; and (b) Contractor asserts its right to an equitable adjustment within thirty (30) calendar days after the end of the period of work stoppage; provided



that, if the State decides the facts justify the action, the State may receive and act upon a Contractor proposal submitted at any time before final payment under the Contract. Any adjustment will conform to the requirements of **Section 2.106**.

2.233 Allowance of Contractor Costs

If the stop work order is not canceled and the work covered by the stop work order is terminated for reasons other than material breach, such termination shall be deemed to be a termination for convenience under **Section 2.212**, and the State shall allow reasonable costs resulting from the stop work order in arriving at the termination settlement. For the avoidance of doubt, the State shall not be liable to Contractor for loss of profits because of a stop work order issued under this **Section 2.230**.

2.240 Reserved

2.250 Dispute Resolution

2.251 In General

Any claim, counterclaim, or dispute between the State and Contractor arising out of or relating to the Contract or any Statement of Work shall be resolved as follows. For all Contractor claims seeking an increase in the amounts payable to Contractor under the Contract, or the time for Contractor's performance, Contractor shall submit a letter executed by Contractor's Contract Administrator or his designee certifying that (a) the claim is made in good faith, (b) the amount claimed accurately reflects the adjustments in the amounts payable to Contractor or the time for Contractor's performance for which Contractor believes the State is liable and covers all costs of every type to which Contractor is entitled from the occurrence of the claimed event, and (c) the supporting data provided with such an affidavit are current and complete to Contractor's best knowledge and belief.

2.252 Informal Dispute Resolution

(a) All operational disputes between the parties shall be resolved under the Contract Management procedures developed pursuant to **Section 2.100**. If the parties are unable to resolve any disputes after compliance with such processes, the parties shall meet with the Director of Purchasing Operations, DMB, or designee, for the purpose of attempting to resolve such dispute without the need for formal legal proceedings, as follows:

(i) The representatives of Contractor and the State shall meet as often as the parties reasonably deem necessary in order to gather and furnish to each other all information with respect to the matter in issue which the parties believe to be appropriate and germane in connection with its resolution. The representatives shall discuss the problem and negotiate in good faith in an effort to resolve the dispute without the necessity of any formal proceeding.

(ii) During the course of negotiations, all reasonable requests made by one party to another for non-privileged information reasonably related to the Contract will be honored in order that each of the parties may be fully advised of the other's position.

(iii) The specific format for the discussions will be left to the discretion of the designated State and Contractor representatives, but may include the preparation of agreed upon statements of fact or written statements of position.

(iv) Following the completion of this process within sixty (60) calendar days, the Director of Purchasing Operations, DMB, or designee, shall issue a written opinion regarding the issue(s) in dispute within thirty (30) calendar days. The opinion regarding the dispute shall be considered the State's final action and the exhaustion of administrative remedies.

(b) This **Section 2.250** will not be construed to prevent either party from instituting, and a party is authorized to institute, formal proceedings earlier to avoid the expiration of any applicable limitations period, to preserve a superior position with respect to other creditors, or pursuant to **Section 2.253**.

(c) The State will not mediate disputes between the Contractor and any other entity, except state agencies, concerning responsibility for performance of work pursuant to the Contract.

2.253 Injunctive Relief

The only circumstance in which disputes between the State and Contractor will not be subject to the provisions of **Section 2.252** is where a party makes a good faith determination that a breach of the terms of the Contract by the other party is such that the damages to such party resulting from the breach will be so immediate, so



large or severe and so incapable of adequate redress after the fact that a temporary restraining order or other immediate injunctive relief is the only adequate remedy.

2.254 Continued Performance

Each party agrees to continue performing its obligations under the Contract while a dispute is being resolved except to the extent the issue in dispute precludes performance (dispute over payment shall not be deemed to preclude performance) and without limiting either party's right to terminate the Contract as provided in **Section 2.210** and **2.220**, as the case may be.

2.260 Federal and State Contract Requirements

2.261 Nondiscrimination

In the performance of the Contract, Contractor agrees not to discriminate against any employee or applicant for employment, with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex, height, weight, marital status, physical or mental disability. Contractor further agrees that every subcontract entered into for the performance of this Contract or any purchase order resulting from this Contract will contain a provision requiring non-discrimination in employment, as specified here, binding upon each Subcontractor. This covenant is required pursuant to the Elliot Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, *et seq.*, and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, *et seq.*, and any breach of this provision may be regarded as a material breach of the Contract.

2.262 Unfair Labor Practices

Pursuant to 1980 PA 278, MCL 423.231, *et seq.*, the State shall not award a Contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled pursuant to section 2 of the Act. This information is compiled by the United States National Labor Relations Board. A Contractor of the State, in relation to the Contract, shall not enter into a contract with a Subcontractor, manufacturer, or supplier whose name appears in this register. Pursuant to section 4 of 1980 PA 278, MCL 423.324, the State may void any Contract if, subsequent to award of the Contract, the name of Contractor as an employer or the name of the Subcontractor, manufacturer or supplier of Contractor appears in the register.

2.263 Workplace Safety and Discriminatory Harassment

In performing Services for the State, the Contractor shall comply with the Department of Civil Services Rule 2-20 regarding Workplace Safety and Rule 1-8.3 regarding Discriminatory Harassment. In addition, the Contractor shall comply with Civil Service regulations and any applicable agency rules provided to the Contractor. For Civil Service Rules, see <http://www.mi.gov/mdcs/0,1607,7-147-6877---,00.html>.

2.270 Litigation

2.271 Disclosure of Litigation

(a) Disclosure. As disclosed in the Annual Report or 10K for the Northrop Grumman Corporation, since this information is not reported at the Sector level, the Contractor must disclose any material criminal litigation, investigations or proceedings involving the Contractor (and each Subcontractor) or any of its officers or directors or any litigation, investigations or proceedings under the Sarbanes-Oxley Act. In addition, each Contractor (and each Subcontractor) must notify the State of any material civil litigation, arbitration or proceeding which arises during the term of the Contract and extensions thereto, to which Contractor (or, to the extent Contractor is aware, any Subcontractor hereunder) is a party, and which involves: (i) disputes that might reasonably be expected to adversely affect the viability or financial stability of Contractor or any Subcontractor hereunder; or (ii) a claim or written allegation of fraud against Contractor or, to the extent Contractor is aware, any Subcontractor hereunder by a governmental or public entity arising out of their business dealings with governmental or public entities. Any such litigation, investigation, arbitration or other proceeding (collectively, "Proceeding") must be disclosed in a written statement to the Contract Administrator within thirty (30) days of its occurrence. Details of settlements which are prevented from disclosure by the terms of the settlement may be annotated as such. Information provided to the State from Contractor's publicly filed documents referencing its material litigation will be deemed to satisfy the requirements of this Section.



(b) Assurances. In the event that any such Proceeding disclosed to the State pursuant to this Section, or of which the State otherwise becomes aware, during the term of this Contract would cause a reasonable party to be concerned about:

- (i) the ability of Contractor (or a Subcontractor hereunder) to continue to perform this Contract in accordance with its terms and conditions, or
- (ii) whether Contractor (or a Subcontractor hereunder) in performing Services for the State is engaged in conduct which is similar in nature to conduct alleged in such Proceeding, which conduct would constitute a breach of this Contract or a violation of Michigan law, regulations or public policy, then Contractor shall be required to provide the State all reasonable assurances requested by the State to demonstrate that:

(A) Contractor and/or its Subcontractors hereunder will be able to continue to perform this Contract and any Statements of Work in accordance with its terms and conditions, and

(B) Contractor and/or its Subcontractors hereunder have not and will not engage in conduct in performing the Services which is similar in nature to the conduct alleged in such Proceeding.

(c) Contractor shall make the following notifications in writing:

(1) Within thirty (30) days of Contractor becoming aware that a change in its ownership or officers has occurred, or is certain to occur, or a change that could result in changes in the valuation of its capitalized assets in the accounting records, Contractor shall notify the Office of Purchasing Operations.

(2) Contractor shall also notify the Office of Purchasing Operations within thirty (30) days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership or officers.

(3) Contractor shall also notify Purchasing Operations within thirty (30) days whenever changes to company affiliations occur.

2.272 Governing Law

The Contract shall in all respects be governed by, and construed in accordance with, the substantive laws of the State of Michigan without regard to any Michigan choice of law rules that would apply the substantive law of any other jurisdiction to the extent not inconsistent with, or pre-empted by federal law.

2.273 Compliance with Laws

Contractor shall comply with all applicable state, federal, and local laws and ordinances ("Applicable Laws") in providing the Services/Deliverables.

2.274 Jurisdiction

Any dispute arising from the Contract shall be resolved in the State of Michigan. With respect to any claim between the parties, Contractor consents to venue in Ingham County, Michigan, and irrevocably waives any objections it may have to such jurisdiction on the grounds of lack of personal jurisdiction of such court or the laying of venue of such court or on the basis of forum non conveniens or otherwise. Contractor agrees to appoint agents in the State of Michigan to receive service of process.

2.280 Environmental Provision

2.281 Environmental Provision

For the purposes of this Section, "Hazardous Materials" is a generic term used to describe asbestos, ACBMs, PCBs, petroleum products, such construction materials as paint thinners, solvents, gasoline, oil, etc., and any other material the manufacture, use, treatment, storage, transportation or disposal of which is regulated by the federal, state or local laws governing the protection of the public health, natural resources or the environment. This includes, but is not limited to, materials such as batteries and circuit packs, and other materials that are regulated as (1) "Hazardous Materials" under the Hazardous Materials Transportation Act, (2) "chemical hazards" under the Occupational Safety and Health Administration standards, (3) "chemical substances or mixtures" under the Toxic Substances Control Act, (4) "pesticides" under the Federal Insecticide Fungicide and Rodenticide Act, and (5) "hazardous wastes" as defined or listed under the Resource Conservation and Recovery Act. This Contract does not cover the handling, removal, or disposal of all Hazardous Materials.

(a) The Contractor shall use, handle, store, dispose of, process, transport and transfer any material considered a Hazardous Material in accordance with all federal, State and local laws. The State shall provide a safe and suitable environment for performance of Contractor's Work. Prior to the commencement of Work, the State shall advise Contractor of the presence at the work site of any Hazardous Material to the extent that



the State is aware of such Hazardous Material. If the Contractor encounters material reasonably believed to be a Hazardous Material and which may present a substantial danger, the Contractor shall immediately stop all affected Work, give written notice to the State of the conditions encountered, and take appropriate health and safety precautions.

(b) Upon receipt of a written notice, the State will investigate the conditions. If (a) the material is a Hazardous Material that may present a substantial danger, and (b) the Hazardous Material was not brought to the site by the Contractor, or does not result in whole or in part from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Materials, the State shall order a suspension of Work in writing. The State shall proceed to have the Hazardous Material removed or rendered harmless. In the alternative, the State shall terminate the affected Work for the State's convenience.

(c) Once the Hazardous Material has been removed or rendered harmless by the State, the affected Work shall be resumed as directed in writing by the State. Any determination by the Michigan Department of Community Health and/or the Michigan Department of Environmental Quality (whichever is applicable) that the Hazardous Material has either been removed or rendered harmless shall be binding upon the State and Contractor for the purposes of resuming the Work. If any such incident with Hazardous Material results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLAs for the affected Work will not be counted in **Section 2.076** for a time as mutually agreed by the parties.

(d) If the Hazardous Material was brought to the site by the Contractor, or results in whole or in part from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Material, or from any other act or omission within the control of the Contractor, the Contractor shall bear its proportionate share of the delay and costs involved in cleaning up the site and removing and rendering harmless the Hazardous Material in accordance with Applicable Laws to the condition approved by applicable regulatory agency(ies). If the Contractor fails to take appropriate action pursuant to Applicable Laws and consistent with the State requirements, then the State may take appropriate action.

2.290 General

2.291 Amendments

The Contract may not be modified, amended, extended, or augmented, except by a writing executed by the parties.

2.292 Assignment

(a) Neither party shall have the right to assign the Contract, or to assign or delegate any of its duties or obligations under the Contract, to any other party (whether by operation of law or otherwise), without the prior written consent of the other party; provided, however, that the State may assign the Contract to any other State agency, department, division or department without the prior consent of Contractor and Contractor may assign the Contract to an affiliate so long as such affiliate is adequately capitalized and can provide adequate assurances that such affiliate can perform the Contract. Any purported assignment in violation of this Section shall be null and void. It is the policy of the State of Michigan to withhold consent from proposed assignments, subcontracts, or novations when such transfer of responsibility would operate to decrease the State's likelihood of receiving performance on the Contract or the State's ability to recover damages.

(b) Contractor may not, without the prior written approval of the State, assign its right to receive payments due under the Contract. In the event of any such permitted assignment, Contractor shall not be relieved of its responsibility to perform any duty imposed upon it herein, and the requirement under the Contract that all payments shall be made to one entity shall continue.

2.293 Entire Contract; Order of Precedence

(a) The Contract, including any Statements of Work and Exhibits, to the extent not contrary to the Contract, each of which is incorporated for all purposes, constitutes the entire agreement between the parties with respect to the subject matter and supersedes all prior agreements, whether written or oral, with respect to such subject matter and as additional terms and conditions on the purchase order shall apply as limited by **Section 2.061**.

(b) In the event of any inconsistency between the terms of the Contract and a Statement of Work, the terms of the Statement of Work will take precedence (as to that Statement of Work only); provided,



however, that a Statement of Work may not modify or amend the terms of **Sections 2.110 through 2.220** of the Contract, which may be modified or amended only by a formal Contract amendment.

2.294 Headings

Captions and headings used in the Contract are for information and organization purposes. Captions and headings, including inaccurate references, do not, in any way, define or limit the requirements or terms and conditions of the Contract.

2.295 Relationship of the Parties (Independent Contractor Relationship)

The relationship between the State and Contractor is that of client and independent Contractor. No agent, employee, or servant of Contractor or any of its Subcontractors shall be or shall be deemed to be an employee, agent or servant of the State for any reason. Contractor will be solely and entirely responsible for its acts and the acts of its agents, employees, servants and Subcontractors during the performance of the Contract.

2.296 Notices

(a) Any notice given to a party under the Contract shall be deemed effective, if addressed to such party as addressed below, upon: (i) delivery, if hand delivered; (ii) receipt of a confirmed transmission by facsimile if a copy of the notice is sent by another means specified in this Section; (iii) the third (3rd) Business Day after being sent by U.S. mail, postage pre-paid, return receipt requested; or (iv) the next Business Day after being sent by a nationally recognized overnight express courier with a reliable tracking system.

State of Michigan
Purchasing Operations
Attention: Jacque Kuch
PO Box 30026
530 West Allegan
Lansing, Michigan 48909

Contractor:
Northrop Grumman
James Arndell
100 Sun Avenue NE, Suite 300
Albuquerque, NM 87109

Either party may change its address where notices are to be sent by giving notice in accordance with this Section.

(b) Binding Commitments

Representatives of Contractor identified in **Exhibit I** (does not exist) shall have the authority to make binding commitments on Contractor's behalf within the bounds set forth in such table. Contractor may change such representatives from time to time upon written notice.

2.297 Media Releases and Contract Distribution

(a) Media Releases

Neither Contractor nor the State will make any news releases, public announcements or public disclosures, nor will they have any conversations with representatives of the news media, pertaining to the Contract, the Services or the Contract without the prior written approval of the other party, and then only in accordance with explicit written instructions provided by that party. In addition, neither Contractor nor the State will use the name, trademarks or other proprietary identifying symbol of the other party or its affiliates without such party's prior written consent. Prior written consent of the Contractor must be obtained from authorized representatives.

(b) Contract Distribution

Purchasing Operations shall retain the sole right of Contract distribution to all State agencies and local units of government unless other arrangements are authorized by Purchasing Operations.

2.298 Reformation and Severability

Each provision of the Contract shall be deemed to be severable from all other provisions of the Contract and, if one or more of the provisions of the Contract shall be declared invalid, the remaining provisions of the Contract shall remain in full force and effect.



2.299 Consents and Approvals

Except as expressly provided otherwise in the Contract, if either party requires the consent or approval of the other party for the taking of any action under the Contract, such consent or approval shall be in writing and shall not be unreasonably withheld or delayed.

2.300 No Waiver of Default

The failure of a party to insist upon strict adherence to any term of the Contract shall not be considered a waiver or deprive the party of the right thereafter to insist upon strict adherence to that term, or any other term, of the Contract.

2.301 Survival

Any provisions of the Contract that impose continuing obligations on the parties including the parties' respective warranty, indemnity and confidentiality obligations, shall survive the expiration or termination of the Contract for any reason. Specific references to survival in the Contract are solely for identification purposes and not meant to limit or prevent the survival of any other section.

2.302 Covenant of Good Faith

Each party agrees that, in its dealings with the other party or in connection with the Contract, it shall act reasonably and in good faith. Unless stated otherwise in the Contract, the parties will not unreasonably delay, condition or withhold the giving of any consent, decision or approval that is either requested or reasonably required of them in order for the other party to perform its responsibilities under the Contract.

2.303 Permits

Contractor shall obtain and pay any associated costs for all required governmental permits, licenses and approvals for the delivery, installation and performance of the Services. The State shall pay for all costs and expenses incurred in obtaining and maintaining any necessary easements or right of way.

2.304 Website Incorporation

State expressly states that it will not be bound by any content on the Contractor's website, even if the Contractor's documentation specifically referenced that content and attempts to incorporate it into any other communication, unless the State has actual knowledge of such content and has expressly agreed to be bound by it in a writing that has been manually signed by an authorized representation of the State.

2.305 Taxes

Vendors are expected to collect and pay all applicable federal, state, and local employment taxes, including the taxes defined in Section 3.022 for all persons involved in the resulting Contract.

The State may refuse to award a contract to any Vendor who has failed to pay any applicable State taxes. The State may refuse to accept Vendor's bid, if Vendor has any outstanding debt with the State. Prior to any award, the State will verify whether Vendor has any outstanding debt with the State.

2.306 Prevailing Wage

RESERVED

2.307 Call Center Disclosure

Contractor and/or all subcontractors involved in the performance of this Contract providing call or contact center services to the State must disclose the location of its call or contact center services to inbound callers. Failure to disclose this information shall be a material breach of this Contract.

2.308 Future Bidding Preclusion

Contractor acknowledges that, to the extent this Contract involves the creation, research, investigation or generation of a future RFP, it may be precluded from bidding on the subsequent RFP. The State reserves the right to disqualify any bidder if the State determines that the bidder has used its position (whether as an incumbent Contractor, or as a Contractor hired to assist with the RFP development, or as a Vendor offering free assistance) to gain a leading edge on the competitive RFP.

2.310 Reserved

2.320 Extended Purchasing

2.321 MiDEAL

Public Act 431 of 1984 permits DMB to provide purchasing services to any city, village, county, township, school district, intermediate school district, non-profit hospital, institution of higher education, community, or junior college. A current listing of approved program members is available at: <http://www.michigan.gov/doingbusiness/0,1607,7-146-6586-16656--,00.html>. Unless otherwise stated, it is the



responsibility of the Contractor to ensure that the non-state agency is an authorized purchaser before extending the Contract pricing.

The Contractor will supply Contract Services and equipment at the established State of Michigan contract prices and terms to the extent applicable and where available. Inasmuch as these are non-state agencies, all invoices will be submitted to and payment remitted by the local unit of government on a direct and individual basis.

To the extent that authorized local units of government purchase quantities of Services and/or equipment under this Contract, the quantities of Services and/or equipment purchased will be included in determining the appropriate rate wherever tiered pricing based on quantity is provided.

2.322 State Employee Purchases

RESERVED

2.330 Federal Grant Requirements

2.331 Federal Grant Requirements

The following links contain certifications and terms which may be required for some purchases paid via Federal funds. They are included here to be utilized as required.

Lobbying Certifications are usually for agreements over \$100,000. The debarment certification is required for all agreements. The last link is where you can go and search for debarred or suspended contractors.

http://straylight.law.cornell.edu/uscode/html/uscode31/usc_sec_31_00001352----000-.html

http://www.archives.gov/federal_register/codification/executive_order/12549.html

http://www.archives.gov/federal_register/executive_orders/pdf/12869.pdf

<http://www.epls.gov/epl/servlet/EPLSearchMain/1>



Please contract the buyer for a copy of all the appendices.